INTN'L MONTHLY MAGAZINE - BY AND FOR ACTIVE RADIOAMATEURS

RADIOSPORTING

FEBRUARY 1987 No. 24 8702 $2.00

JW5VAA — HOPEN ISLAND

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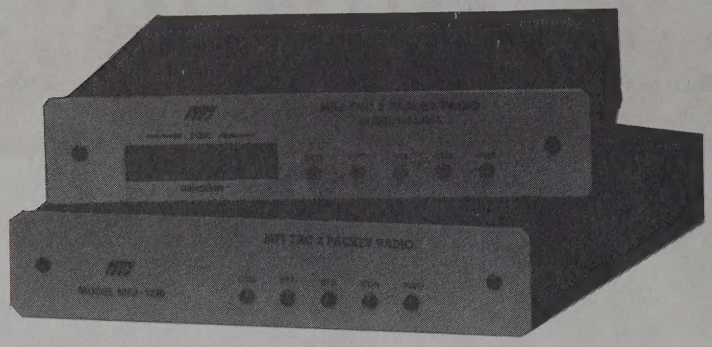

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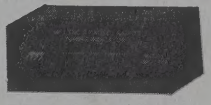

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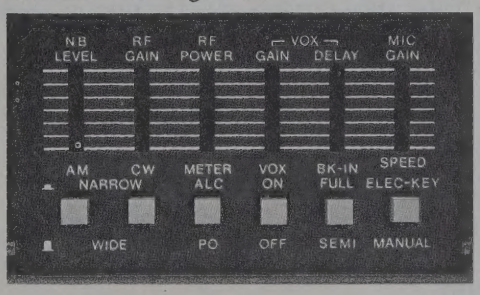

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I received my first copy of your magazine from some unknown source. Somebody thinks I need another magazine. I take 5 so far.

I have read and reread your magazine and like it - I found it interesting because of its foreign nature. However I feel I must take exception to a part of your editorial where you state "In my first hour I worked 240 stations." I question that - At that rate you contacted a station every 15 seconds - 4 per minute- 240 per hour. I have contacted several amateurs in town and they doubt it was done.

I spent 5 years in the US Army in WW2 in communications, we used electronic speed machines capable of 100 words per minute. Are you using such equipment? We didn't copy this stuff, it was taped. I have been interested in Ham Radio since 1925 - the loose coupler crystal detection days. I copied NAA at Arlington press reports and hundred of ships at sea.

Amateur radio operators are like fishermen, always exaggerating. I have interested myself in the contest reports of QST, CQ, etc. I find mathematically these reports are hard to believe unless we have some super-duper operators. Bragging is human trait everybody has. Please make it seem plausible, not laughable. Amateurs lose their credibility with stuff like this.

However, I like your magazine and wish it lots of success.

73 John Marshall, Florida Skip

Dear John,

welcome to the eighties and it looks like you need this publication more than the other five, they must have kept you in the dark all those years.

You probably missed that we were talking about the phone (SSB) contest, where you can make (it has been done by myself and many others) about eight contacts a minute. Even on CW we can make four contacts a minute with ease. We could do even better if the stations calling were all as effective as they should be. It takes about four to six words for complete CW QSO during the contest (both stations included). If we run at about 50 wpm that should yield about eight to ten contacts a minute. If we run a "lousy" 25 words a minute, this should yield about four to five contacts a minute. That rate depends on the stations calling and is usually experienced in the beginning of the contest or by some expedition operations for quite a bit longer. Those figures and claims are not a "fishermen's tales," they are logged and verified results. VP2KC operator ran 400 stations an hour for about four hours in a row during the CQ WW Phone contest!

Instead of listening to press reports, tune your radio to a good contest station running a pile-up (you can find them on the top in the last year contest results) and listen, you might be surprised. Yes, we use some machines, mostly electronic memory keyers and computers to help with sending. Our ears and heads are still better than the best computer and I dare to say even many professional operators.

I hope you will subscribe to our magazine and really enjoy your radio.

73 Yuri

DL6RAI:

Enclosed is an article about dupe checking, a different approach towards the problem as the one from N4ZR published in December issue of RADIOSPORTING.

I am sorry that there were not so many European entrants in the IRSA-WRC contest. I think that over here it will take a few years until this contest becomes established. RADIOSPORTING or the IRSA is not well known here and I imagine that people thought this was another of the thousands contests we have every year. Almost every country in Europe has its own contest; there is LZ, YU, YO, OK, Y2, SAC, F, EA, I, etc. contest; there is a big number of VHF contests; add all those special club contests (TOPS, FOC, BARTG, DIG, HSC, G-QRP, etc) and the international big contests and you got at least two contests going on every weekend.

I believe that with big activity from North America during the next few years, people over here will realize that this is probably the best contest around.

You keep making jokes about the Europeans complaining about the unfair scoring system in some contests. Well, look" in 1985 VE3BMV established a new world record on 3.5 MHz in the CQ WW SSB contest. I don't have the results here, but I think you made something like 1500 to 1600 contacts on 80 m and your score was around 383k points. In 1986 CQ WW SSB I operated from LX9BV on 80 m monoband. I also made 1500 contest QSOs but my score was not even half of yours, about 185k. This is due to the fact that North American stations earn 2 points for inner continental contacts while covering the same distance in Europe is worth 1 point. So it will never be possible to set a 80 m world record from Europe. Oh, I'm not complaining. It's my own fault to enter such a contest, isn't it?!?

I hope to read something about those marvelous wonder antennas called "RAZOR BEAMS" which you keep citing. Thanks for a great magazine, You edged out .... magazine at my place! Ben, DL6RAI

Dear Ben,

thank you for your letter and article. Your letter, or speed of it in response to our Dec. issue sets probably the world record for the amateur magazine (Advertisers take a notice!). I received it about two weeks after the Dec. issue was mailed! It did not make it into the January issue, because I had to skip the MAIL ROOM column due to the rush.

We realize that it takes time for things to get accepted. We hope that in about a year or two word gets around about our contest and that people will appreciate and enjoy it to the extent it deserves. I am not making jokes about the Europeans complaining about the scoring system in other contests. I feel for you, I was contesting on the other side too (ex OK3BU) and I know how it is! Having been on both ends of the DX contest stick I think I know what is needed for the fairest, around the world competition and I tried to reflect that in our IRSA-WRC contest rules. We can never come up with the ideal rules fair to everybody, but I think we can get pretty close to it. There will be always advantages and disadvantages because of distribution of the ham population and propagation conditions, but there shouldn't be a difference of 30 to 50 percent in scores just because someone is 50 miles more south, in another continent.

We hope that we have now an alternative for those who would like to compete on the world scale, they realize it and join our WRC contest. We have results of 1986 WRC contest just about ready, so we will probably break all the records as far as the processing of results goes.

Don't despair, there is always way to do the "impossible." You just have to analyze the situation and come up with possible solution. The antennas are certainly one way of doing it. My Razor Beams were the response to VE7s beating us on 10 - 20 meters at the high sunspot years. Razors managed to bring me about 30 - 40 percent more points than without them and that did the trick, all Canadian high band monoband records (except 10 m SSB CQ WW) belong to VE3BMV. We should have more on them in the upcoming issues and I hope to enter the 2 m models at the antenna measuring contest at Dayton this year.

Thank you for your flattering comments, it will keep us going!

73 de Yuri

KA7KGF:

I am writing in response to the July 86 issue. First of, let me say hooray to the idea of computerized logs used for scoring contests. I feel that this is the way of the future and I hope that the other major contest sponsors will adopt this great idea. It will be very nice to see the actual results within a few months instead of almost a year. So much more cross-checking will be possible. I have only one question. What will you do with all the diskettes? Hi. One idea might be to use these diskettes to distribute the results for those that wish to get the results ASAP. You could also distribute

any software that might be available. This would make the return postage more cost effective.

Secondly I am responding to my good friend Ron, KU7Y's letter. I am all for more enforcement of the rules. It seems like some of the "Super Stations" feel that the rules regarding emission quality do not apply to them. Case in point: During the last IARU HF contest I tuned across a station whose call we all will recognize, W1AW. Now most of us have great respect for the operators at W1AW and the standards by which they operate.However, they get a big black mark for the operator who was running 20 m phone. One of the locals and at least two other operators commented on the POOR audio quality and the comments were dismissed with a "Thank you... QRZ contest." Now I suppose that one comment could be blamed on a poor receiver or bad conditions, but three comments from various parts of the country??? Come on guys... get your act together. I heard W1AW on a different band later that night and they sounded fine. In fact I could not tell you if it was the same operator or not. Is a score all that is important.

I have also heard other stations during other contests flagrantly violate some rules such as DX window, etc. These stations are the same ones that get up on the soapbox in the magazines making noise about keeping the DX window sacred. I, and I am sure most of us, feel that if the North American stations would not work DX stations using transceive in the window, then soon they would start working split. Enough said.

Kevin, KA7KGF

Dear Kevin,

We did not intend to sell the received diskettes on Hamvention's flea market. Yes, we can send the contest program and results back to the contester. We are planning to have the real time WRC contest program available and to make it available to all interested (for return postage). I think that the best computer emerging for this purpose is the IBM PC clone, it can actually help with real time logging without slowing the operator down or running out of memory space. Prices are coming down to Commodore C-64 level, so it's time to upgrade to a decent computer. Any volunteers to work on the program?

On the poor quality of contest signals: send the complaint to the contest sponsor with tape recording if you can manage one. If there are more complaints received, the sponsors would have to act on them. If few contesters get disqualified because of poor signal quality, then they will think twice next time. We certainly would act with our WRC contest, it is the violation of rules and regulations of the contest and one's license. Makes you wonder what the sponsor (ARRL/IARU) will do if their station (W1AW) violated the rules (see the results).

So if you hear bad signal during the contest, don't be afraid to point it out. Just make sure that your noise blanker is not on or the your receiver is not overloaded in case of wide signals. Same goes for CW clicks, there is no reason to have them with today's technology.

Let's keep it clean, 73, Yuri

VK2BTA

Greetings from Sydney, Australia and enclosed is the renewal. Not too active lately, conditions are lousy, my beam was taken down by the wind (Ground Plane antenna is still up) so I am playing mostly on VHF and RTTY - all home brewed.

Congratulations to you and your XYL for putting out such excellent magazine. RADIOSPORTING is very interesting and very well put together and it is definitely my best magazine coming from North America. Unfortunately, because of our currency sinking against US dollar, the price of subscription is high. But what can we do, we must support amateur radio even if we don't have enough to buy a bread.

Vlastik, VK2BTA

Hang in the Vlastik, what goes up, must come down and I think it already is (especially against the Yen). ——— Yuri

ZS6BRZ:

I wonder how many of your readers, contesters and DXers have used the Commodore 64 home computer for logging purposes. In many of my previous contests I have used a specific contest program published in a well known book on computer programs for amateur radio. Initially I typed "Log Book" program to transfer all my hand written logs to be stored in the computer. My first problem encountered was after I had made several entries and tried to test it using the FIND command only to find it giving only the headings and not what I wanted to display. I attributed this to my carelessness in transcribing and because I was not "computer literate" had someone help me solve the problem. I abandoned the idea of using the program as it was too slow, having been written in BASIC and proceeded in transcribing the "Contest Logger" program for use in the CQ WW and WPX contests. I ensured that all commas and colons were entered as shown. As it was a tremendously long program I did not have enough time to check its workability but rather used it as a post contest logger.

The program had a number of commands. among them "QRT" which saves the entered data to disk, "RESUME", to carry on where one left off at the previous QRT point. It also had an auto clock which had to be reset after 50 QSOs. This was intended to be a program to be used live during a contest but signs of a problem started to show itself during the post contest logging - an "invalid entry" display came up after I had missed updating the clock and I had to begin all over again. The other problem reared its head when after three lengthy sessions of entering QSOs I could not recall the data stored to disk - this was close to 900 entries and I had to start all over again! Each "Resume" session after that was a finger biting exercise as I was not sure if I had to commence from scratch.

On one other occasion, as I was running out of time for submission of my logs, I decided to purchase another disk drive only to find that the same problem cropped up. Both disk drives and computer were then sent in for checking and servicing in the case of there being a fault with them.

I subsequently wrote to the authors, who very kindly supplied me their corrected disk. Needless to say, I still encountered problems. I had to sit through a continuous 13 hour session to ensure that there were no breaks. The other problem concerned the "LOGPRINT" and "DUPE PRINT" programs. The LOGPRINT gave the option of having the contest logs printed in time sequence or band sequence and the DUPE PRINT would give either an alphabetical or numerical printout of the stations contacted. In the one instance the printout gave only two bands then hang up. In the latter case, the dupe printout covered alphabetically A to C then crashed!

To me amateur radio comes first and computers are a tool to make hamming easier. As far as computers are concerned, I confess that I am an appliance operator and I have to rely on the help of computer "buffins." Perhaps some of your readers can throw some light on the subject. Better still, you could publish or encourage some of the professional contesters to disclose how some of their computer programs work and how they are written up. I am sure that there are a whole lot of "small timers" like myself who could stand to benefit from their suggestions - I have always envied those stations that can come back immediately to whether the contact they have just made is a dupe. In my case I am too scared to even try... just in case half way through a big contest everything hangs up on me.

See you next time around and best 73,

Sam, ZS6BRZ

Dear Sam,

You probably expressed feelings and experiences of many contesters when it comes to using the computer for contest work. "Unfortunately" Commodore-64 has become popular among the hams because it is cheap. You get what you pay for. It is great to experiment with computer or to become literate. For more serious work as contest duping of over 2000 QSOs it runs into trouble. Its disk drives are painfully slow. The better choice is Apple II variety, or IBM-PC clones.

We will report on progress and availability of good programs here in our magazine. Those that do not want to become programmers, should use good "canned" programs that are tested and know to run well. See some N4ZR's Winner's Edge Software.

——— 73, Yuri

W3MA:

I have had an occasion recently to travel around the East Coast by car. I usually take two meter rig with me more for emergency use, than to listen to the normal two meter dribble. What has occurred to me is that it would be fun to be able to check into contest/DX oriented repeaters and simplex frequencies.

I am suggesting that you request the clubs and groups send to you their repeater or simplex frequencies for publishing in RADIOSPORTING at least once a year. This should go a long way in promoting fraternalism.

In the Philadelphia metropolitan area, the Frankford Radio Club maintains the 147.27/147.87 repeater and occasionally visitor like K1ZM, N2AA for example drops for a chat. But what does someone do that has no idea of where such a repeater or simplex frequency may be?

Happy New Year! John Salyer, W3MA

Consider it done, let's have some frequencies for DX and contest oriented repeaters or simplex frequencies!

Congratulations John for winning the Bermuda Contest, I am sure you will enjoy the trip and stay in the Bermuda!

——— de Yuri

HERE WE LIST AGAIN

WD4RAF:

Dear Yuri, I was delighted to find another copy of RADIOSPORTING in the mail and I am quite happy that you plan to continue the publication of your periodical. I guess that I was one of the earlier subscribers to RADIOSPORTING; I was really intrigued by the first issues and by the purpose you announced at that time.

Since then I have not always been very happy with your magazine. I am only moderately interested in contesting and I avoid operating on 80 and 160 m as much as possible. Also I disagree with your position on list and net operations for DX.

This position is totally unrealistic and not in the best interests of amateur radio. While I admit that many list operations are a disgrace, some of the better DX chasing is totally uncivilized and usurping an unreasonable portion of the amateur bands.

There are many aspects of competitive operations which I consider most attractive and which are totally ignored by your magazine. Surely I would like to reach a level of 300 confirmed DX countries, but I also would like to get the last 2 of the 3076 counties of the US confirmed. I need 2 zones for WAZ and I am trying to improve my standing on the WPX Honor Roll, to just mention a few of the many awards which I find worth pursuing. Some of these (including the many activities of 10-10 International) qualify for being classified as Radiosport.

I could easily qualify for your DXCA- but I shall not participate because of the "third party" rule. Do you really think that there is a meaningful difference between your prohibition of nets and the extensive over the air and telephone networks of DX associations and clubs?

Anyhow - after having aired all this I still hope that you can make a big success of RADIOSPORTING and I enclose a check for the renewal of my subscription.

Fred Van Aalst, WD4RAF

VE3HGN:

Hi Yuri, Hope all is well with you and the family. Now insofar as you seem not to be present on the DX scene (battlefield!) I thought it wise to draw your attention to the growing infestation of DX nets on the 20 m band. It is hoped that your magazine will lead the way in banishing this blight... if not lead the way, at least take a stand on this pressing matter. These DX nets with their celebrated masters and list-takers, which is nothing but a euphemism for DX-pimp, now surfeit the bands; eg., 14160, 14183, 14226, 14236 and 14215 (after midnight EST) are a few of the better known DX-brothels with their long lines of customers extending around the block waiting to get a crack at the lil' bimbo half way around the world, or in some cases, in their own backyard. Something must be done to restore DXing as a sport, which develops operating skills and antenna innovation, to mention only a few desirable spin-offs.

One old DX-pimp was pleased to draw my attention to the fact that lists are a more efficient way of working DX and I told her that shooting animals in the ZOO was also a more efficient way of hunting, but would be regarded by most as being unsportsmanlike. Marconi and others proved that RF can go great distances which is about all that a List contact proves, so why do the experiment over and over again on Lists where the exchanges often sound like the following:

"I QSL the 3 by 1."
"Repeat his report again"
"I QSL the 3 by 2"
"Repeat his report again"
"I QSL the 3 by 3"
"Good contact, next station, make your call."

Hundreds of young DXers are being corrupted by these Old DX-pimps with their patronizing prattle about "I can help you, we're here every day to help you make your DXCC." DXing today is a joke, and one guy told me he puts the net frequencies into memory and punches SCAN, then sits back and waits for what he needs and has 230 DXCC without ever toughing it out in a pileup! He's probably the same guy who has been shooting ZOO animals from an air-conditioned automobile.

P.S. The recent Cocos Isl. (TI9W) DXpedition was spectacular; i.e., operator "Sofia" was making 160 QSOs per hour with a transceive operation on 20 meters. I worked her on three bands with a Hustler whip and 100 Watts. They are to be congratulated!

73, Don Newlands, VE3HGN

de Yuri:

Help! What can I say? First of all, Fred, thank you for extending your subscription, you are a good sport and you seem to have a potential for working it on your own. You read what Don thinks about the net operation. My personal preference is to stay away from lists and nets. I love the challenge. I have to confess that I have worked a few new ones from the list way back, but it didn't feel right, later, when the list plague spread, I got so disgusted that I never applied for stickers for my DXCC and didn't even bother confirming last three years worth of new countries. I lost interest in DXCC. You can't tell now who worked the countries on his own, meaning his is skilled hunter, and who worked them via third party traffic.

You have a right to work them any way you like it. It is up to you what makes you feel good. I and many other accomplished DXers and contesters (that includes "little guys" with dipoles and 100W) are of an opinion that nets and lists (especially those bad ones) are not the right way to hunt. They might have some benefit for the unexperienced rare DX station, but it is better if we teach that poor DX how to operate on his own by using second VFO, clarifier or going by districts. We all would have more enjoyment. The DX will learn to walk on his own feet rather than be stuck in a walker of DX net control for the rest of his radio life.

For that reason we have put the rule about not encouraging the list and net operation for our DXCA award. It is perhaps the first award that discourages those modes of operation. One has the choice: work'em any possible way where it is allowed, or be a super sport, work'em on your own and make it known by having DXCA on your wall and QSL card.

Yes, there is a difference between net/list operation and DX alert system via phone or repeaters. In the first case you are using the help to make a contact, sometimes with stations that can't even hear the partner, in the second case the DX alert system tells you that so and so is there, you go there, find him and work him on your own. It is more like telling someone that tiger is now on that hill over there as compared to holding that tiger in a cage while you shoot (lists).

As far as writing about other competitive operations, we would like to include them all. Presently we have those that we have writers for. We are looking for column leaders. We are far from what I would like the magazine to look like, but we are still struggling with time (no advertising - no hired staff) it is still a labor of love. Over the next few months I hope to find more time and write more material from my own experiences. I would like to show that with modest resources and some ingenuity one can achieve "miracles," you don't need "big bucks." I still have to feed the family and we are doing the best under the circumstances. If you would like to help, contribute or make things better, please come forward. Our readers will admire you. Very little we receive does not make it to our pages. Last few months, because of our move, we have accumulated more stuff, but it will eventually appear.

We will continue to promote quality and sportsmanship to our best abilities. If you care, please help us. 73 de Yuri

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ON4UN:

Dear Yuri, ...While editing my contributions you did seem to take some liberties with the text, and said that "I must have been the first one" to start using Beverages..." I think I was one of the first ones, but how could I know I was the first? I would not like to be quoted for being incorrect in matters like this. So let's be very careful when making such statements, please.

One other thing I would like to mention, your magazine deserves better stuff on antennas than was in the December issue by K7GCO (inverted Vees, slopers). I wrote letter to K7GCO and enclose copy for your information.

The ARRL finally got working on my new book "80 Meter DXing", and about 75% of the book has been edited by now. Nevertheless they say they will have the book published by about July 1987. The book emphasizes the use of our software.

73, John Devoldere, ON4UN

Dear John,

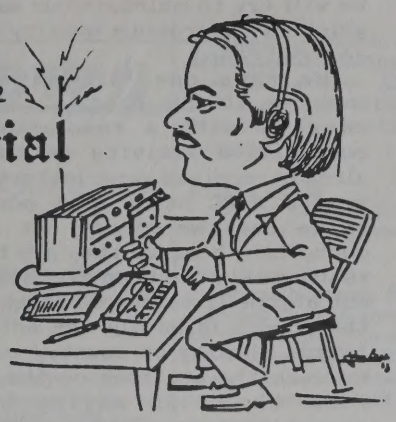
Sorry about leaving out "one of," it was not intentional, must have been taken out by the IBM-PC gremlins. We all know that the first one who used the Beverage Antenna was it's inventor Dr. Beverage himself. I think he even has some patents to prove it.

We hope to eliminate some of those errors by receiving the material on the diskettes, rather than retyping it. This should help quite a bit.

In defense of K7GCO (and myself) for putting the stuff about inverted Vee antennas, the main intention was to bring to light who was the inventor of this perhaps simplest, working and the most popular antenna in the world. It perhaps should be called "K7GCO Inverted Vee." We have readers that are just starting and they appreciate this "low end" material. We would like to cater to aspiring DXers and contesters as well as the champions.

K7GCO will answer some points in the next issue. We are looking forward to more stuff on antennas. Thank you on behalf of all our readers for excellent articles John and we wish you good luck on 160 meters! 73, Yuri

ve3bmu/w2 Radiotorial



GROWTH OF AMATEUR RADIO

Editors of other magazines and leagues are lamenting that the growth of amateur radio operators is slowing down or at best, it is not as fast as they would like it to be. The main reason for this outcry is because they want to sell more magazines. More hams, more literature sold.

Is it really so bad that we are on the list of the endangered species? Well, look at the size of the Callbook. It is getting bigger every year. So it can't be that bad. If you are an active ham who listens on the bands, you might find them quite lively especially on weekends. It is hard to find a clear spot where you won't get stomped. Judging by the traffic on the bands, we really are not a dying hobby.

Statistics say that the average age of a ham is going up and we are not getting the younger people interested in radio. Should we than make it easy for anyone to get that radio ticket? There seems to be tendency to ease the exams, eliminate the code and do anything possible to "help" the youngsters enjoy our wonderful hobby/sport. Should we do this for statistics sake?

Are we forgetting that easing the requirements to obtain the privilege to own and operate the transmitter can and will lead to deterioration of our hobby? We don't have to go to far. The other end of the extreme (no exams at all) is the CB service. What happened there? It turned into a jungle of profanity, ignorance of rules and regulation, and caused interference with other users of the radio spectrum. Those who wanted to obey the rules were outpowered by kilowatts and left the "service" in disgust. Sure, the industry made a quick buck when the boom was on, but that was it. I am not sure if there are any CB magazines left. Most of those CB raiders probably can't even read, never mind understand the workings of a radio. I hope that everyone realizes that deregulation and lowering the requirements for obtaining a ham radio ticket is not the best way to go.

Now lets look at the youngsters. We are faced with a different situation today as compared to what we had 20 to 40 years ago. At that time radio communication was just developing going through the boom period. It was interesting and fascinating just to think that we can talk to someone on the other side of the world. Radio was a growing industry. Most of the technological breakthroughs were happening in radio communication, TV, etc. Today, the computers (and video technology) are going through a similar pattern. Can you blame the youngsters for being more fascinated by a computer than by radio? A computer has a nice color picture, makes sounds, does things that are entertaining and useful. What would you choose if you were young today and starting to explore the world of technology? You buy a computer with a color monitor for less than what you have to pay for a transceiver. Plus, it doesn't need an ugly tower and antennas, and it doesn't aggravate the neighbors. A computer can actually make you money. A lot more money than what radio will bring you. Our youngsters are not stupid!

The other reasons that young people are not so hot about the radio is because when they tune the bands, especially on 80 m this is what they hear: the Geritol net, 100 year old guys (they "own" the frequency since Marconi) are talking about their pacemakers; the DX Godfather and his list or net "operation" helping to "hunt" DX in the ZOO; "Red Hot Electron" not hearing anyone on the band when he decides to fire up on "his" frequency, and so on.

Looking at the technical and practical side of things, as far as the interference goes, it is not very different today from the way it was back then. With all the electronic gadgets around us it is a lot more difficult to operate the radio in a residential area today then it was some 20 years ago. Manufacturers produce gadgets (without shielding or filtering) that are receiving short waves when they are suppose to be play records or tapes. There is so much RF pollution around us that receiving on low bands is almost impossible in the city. Antenna towers are now very "ugly" and they "decrease" the property value. Hams get sued because they worked hard to get their license and they want to help others and to enjoy themselves. Which is easier? To set up a computer or to put up a ham radio station?

With my two boys (11 and 13) I found out that if I "order" them to enjoy something, it won't work. If I ask them to shovel the driveway, it takes a lot of explaining and "motivation" to get them to do it. If I say that we all are going, and we make a competition out of it, they will jump on it. It's FUN.

I have enjoyed ham radio for 28 years without interruption because of the DXing and contesting-the competitive side of it. It is FUN to master all possible aspects of our hobby, to improve in it and to be able to prove it in the competition. If I was just a 2 meter FM freak, or a ragchewer, I would have been a "dead" ham a long time ago. Human beings differ from other living creatures because they can think and strive for improvement. If the competitive side of the hobby is publicized, we might see more youngsters coming in. There is something for them to work towards, to prove and measure their abilities. I can hear some hams are saying: "I enjoy the hobby without contesting or DXing." Yes, there are many aspects of our hobby to be enjoyed. Do what you enjoy. I found that the competitive side of radio kept my interest in the art of communication for the longest part. I have designed and built equipment and antennas, I also played with other modes, but what I enjoy most from day one is the contesting. All other areas of ham radio culminate in my contest weekend operation. It takes it all. The better I master all of them, the better my final result is.

I have recently read an article in American Airlines magazine about Brain Aerobics. It elaborates on the importance of exercising the brain for the functioning of the whole body and prolonging one's active years. I would like to write about this subject perhaps in the next issue, because in my opinion it has to do a lot with ham radio. There are many benefits that ham radio brings to our community. Let's publicize them and help to keep the interest in our hobby.

The word "amateur" is from the latin word "amare" which means "to love". You can't push or force anyone to love something, when he doesn't want to. Love can move a mountain, and people in love can do things that are seemingly impossible. Obstacles fuel the fire of love. Lowering the standards will only bring in the garbage and destroy the terrific fire we have. (It was done before.)

In order to make the contact with ham radio easier, the novice category is an excellent idea. But, to include the novices in the HF ham bands with phone privileges, might not be such a great idea. There should be an incentive for those who would like to have the privilege to operate all bands with full power. If there is a new category, something like the citizens radio with very low requirements to obtain the license, it should be placed on the UHF frequencies for which the 900 MHz band would be ideal. The range is short, just right for personal communication, a lot of stations can be fitted there with a minimum of interference. If they like the art of communicating, they can go for the Novice and the other category exams.By working for the license, they would enjoy and preserve the privileges of being ham radio operator.

Any licensing changes should be done in tune with the rest of the world. If one country brings a horde of half licensed amateurs to the HF bands, than that country will look bad in the eyes of the global village. Lets face it, the whole world can hear us and will judge us by our behavior. Don't we care about our image?

Let us publicize the good things about ham radio. Let's make it known to a wider audience that ham radio can be good for them. It can make you a better doctor, engineer, technician or human being. It can save yours or someone else's life some day. It is the most wonderful hobby there is. Let's keep it that way and preserve it for our children.

To summarize it: In order to make ham radio attractive to our youngsters, we must keep it a sane and interesting, experimenter's and operator's hobby. If it has a smell of competition, then it will attract more young people who like to strive for improvement and the furthering of their limits. In conjunction with computers, ham radio offers endless possibilities. We need more exposure in the media. We need to bring a youngsters into the shack. We need something they can measure their performance by. We at RADIOSPORTING are going to follow this path. Hopefully this will produce longer lasting, better quality hams on our bands. We need to clean up the garbage. Also, we need help from authorities to improve the RF interference and the anti-antenna situation. Then we will attract newcomers, old and young to our hobby and they will stay with us. Otherwise, who needs it? You can lead the horse to the water, but you can't make him to drink! This saying has been around for a long time, and it is true.

I wonder what you old tigers think about all of this. We want RADIOSPORTING to be your magazine. We provide a fast vehicle for you to use at any time. We are moving the MAIL ROOM column up front because it is more important than my Radiotorial. If you like the magazine so much that you decided to buy it, it's yours. Use it, read it, benefit from it, contribute to it. As we go along, we can only get better. More high caliber contributors are discovering us, finding out that this is their place. RADIOSPORTING is where they are appreciated. Here is where the action is. I hope that we never grow to the size when we become impersonal and bureaucratic. We will try to maintain our sanity and our main goal which is to promote quality and sportsmanship in amateur radio.

We have one dilemma now. Our DXCA award includes 10 MHz band. A recent meeting of IARU came up with a resolution to discourage any competitive activity on the new WARC bands. I already received some letters saying that we should remove WARC bands from our award. Personally, I agree that we should not use those bands for contesting because they are too narrow and we don't really need more than six bands on HF for contesting. But anyone listening on those new bands will find out that there is hardly any activity on those bands. Awards chasing or country counting goes on while we work the stations on the band. I have a letter from the ARRL saying that DXCC is not a competition. To me, if you chase something or count it, it is a form of competition. But collecting the countries can be done while observing the restrictions placed on a particular band. We have a clause in our rules stating that rules and regulations must be observed and "non interference with commercial services on shared bands" is required. I would like to see the WARC bands included. There wouldn't be any problem if people count their countries as they work the stations on the band. Many do it anyway, they just did not have a place to apply for a piece of wall paper. The occasional expedition operation should not pose a threat to the bands. (Are the expeditions banned from operating on new bands too?)

So here it goes for your vote: should we remove the WARC bands from our DXCA award rules or not? We would like to hear especially from those who operate those bands what they think about the whole situation. One thing is to have "officials" to decide for us what we should do. Another thing is what makes sense and what is good for us.

I had a minor dealing with ARRL and hit a brick wall again. A simple thing such as an address change, when we moved from CRRL to ARRL country, brought no response. I sent the notice to Newington, notifying them about our new address over three months ago. The result? QST keeps going to Ontario. Do they wait for the next board meeting to establish the procedure how to handle members moving from Canada to USA?

Looking at the Contest Disqualification Criteria in the January QST I can't help but warn you of the potential danger. It has happened to me, so it is not an imaginary situation. In ARRL sponsored contests you can be disqualified for making errors in copying the call sign (I was disqualified for making errors in receiving an exchange - signal report and power number). You are "allowed" to make two percent errors which includes: unconfirmed QSOs and/or multipliers, duplicate contacts, miscopied callsign and/or other scoring discrepancies. If you did not have any other errors (dupes) in your log, this means that, let's say on CW you can only make 0.18% of errors. If you make 1000 QSOs, you receive about 11,000 characters, you are "allowed" to make only 20 errors. This is of course while operating for 48 hours with all the QRM one can get in the contest.

I say it again, one should not be disqualified for making errors, but only for cheating. If we make an error we should be penalized, points taken away, but not labeled as a cheater. So if you enter the ARRL contests, you better have either a tape recorder running or two witnesses around. I gave up. I'd rather play with my kids than waist a contest weekend only to find out that some bureaucrat has disqualified me!

73 de WW2/VE3BMV

DX news

1S, Spratley
DU1CK still planning to fire up by the end of January.

3G9SBY, South Shetland
fired up as expected, unfortunately his CW is slow and hard to copy. QSL via Box 2000, Punta Arenas, Chile

5AØA, Libya
mostly on 15 m CW (slow) operated by SP6RT. QSL via SP6BZ. Documentation is being translated for the ARRL DXCC desk. SP3BQD will try to equip him for operation on 160 m. SP6RT is coming back to Poland in March for a few days and there is a hope that he will be able to put zone 34 on the air upon his return.

5H3ZO, Tanzania
has operating permission and antenna for 160 m ready.

7J1ADJ, Ogasawara
using this callsign to work JA stations (QSL via KA2PF) and KA2IJ for working the rest (QSL via W6CNA)

8Q7CH, Maldive
is back on the air and planning to fire up on 160 meters with new antenna.

8R1Z, 8R1X
QSL manager is Carol Shrader, WI4K with new address: PO Box 5614, Virginia Beach, VA 23455

9Q5NW, Zaire
Tom, N4NW received his call in Zaire and will be active on all bands and especially in the contests. QSL to Box 368, Stockbridge, GA 30281 with SASE or IRC. Non US stations can send the cards via bureau to his home call N4NW
9Q5DA, Duncan should be on the air soon. He will favor CW and RTTY, QSL via KC4NC, Tom Brown, 742B West 21st St., Norfolk, VA 23517.

9V1, Singapore
starting with January 1, 1987 Singapore amateurs are permitted to operate on 30 meter band.

C2, Nauru
FKØAT was active from Nauru till mid January, the next stops were YJ, Vanuatu and FW, Wallis for one week each. QSL to his home call FKØAT.

HSØA, Thailand
Hiro, JAØJCJ, K2BA and DL7MAE operated during the CQ WW CW contest from HSØA and made about 3500 QSOs (3.2M points) and 430 multipliers.

J6LTA, St. Lucia
Bill, K4LTA and others will operate Feb. 19 - Mar 1. QSL to NF5Z, Dick Powel Rt. 1, Box 229, Zavalla, TX 75980

J7ØA, Dominica
Bill, K4LTA will operate here from Mar. 1 - 10. QSL also to NF5Z.

JA, Japan on 80 m
effective Dec. 28th, 1986 Japanese station can now operate SSB between 3791 - 3805 kHz.

ON, Belgium
finally permitted their operators to use 160 m band staring Jan. 1 1987. ON5NT and ON4UN made this new country on 160 "easy" shot for many 160 m DXers. The only Eu country absent on 160 is Albania.

P4ØGD, Aruba
John, W2GD will operate ARRL DX CW contest from Aruba.

PJ2, Curacao
John Thompson, W1BIH is returning to Curacao for his annual vacation and will be there until the mid-April as W1BIH/PJ2. He will be very active especially on CW and low bands, also operating PJ9J in major contests. QSL via W1AX.

PYØ, St. Peter and Paul Rocks
Ron, PY1BVY and Paul, PY1ZT will operate as ZYØZSB and ZYØZSA Feb. 20-28 on all bands, 160 - 10 m on CW and SSB. QSL via PY1BVY, Box 1502, 24000 Niteroi, Brazil

S79, Seychelles
Iris and Lloyd Colvins finally fired up from this spot using S79KG. QSL via YASME.

ST, Sudan
Gerben, PAØGAM will spend a year and a half in Sudan, starting March, 1987. ST2SA is active around 14104 on AMTOR.

TA2C, Turkey
Please note the address change of QSL manager WI4K as listed under 8R1Z/8R1X.

TZ6ZZ, Mali
activated by W4LZZ, with QSL cards via W4FRU.

UA1OT, Franz Josef Land
continues operating on all bands and especially on 160 m. Other two stations are UV1OO and RZ1OWA.

VK9MW, Melish Reef
Ken, K4ADN and other DXers will activate this rare spot in August 1987. The trip will leave Queensland, Australia on Aug. 1 for a five day operation. Willis Island operation is also planned. Additional operators and donations of equipment and antennas are appreciated.

VK9LM, Lord Howe
Rudi, DJ5CQ will be active Feb.8-Mar. lespecially on 40 and 80. QSL via OE1ZL.

VK9Y, Cocos Keeling
Jim Smith, VK9NS and Bob Winn, W5KNE will operate VK9YS and VK9YW Feb. 10 - 24 all bands, especially 160 and 80 meters with some RTTY also. QSL via VK9NS or HIDXA. On his way home Jim plans to stop at Christmas Island and operate as VK9XS between Feb. 24 and Mar.3

VQ9QM, Chagos
W4QM will be winding down his operation from Chagos in late February and returning home to answer thousands of QSL cards.

K3TW/YA1, Afghanistan
Tom Warren has been in Kabul, Afghanistan and sends the greetings to all our readers. He has not been able to obtain a ham license there, however SWLing results have been impressive. With just SONY ICF-2002 receiver he has heard many Eu/Af/Asian stations including several from the USA on 7 MHz, long path. He hopes that situation improves in the future so we can hear and work some stations from this fine DX location.

ZB4ØANV,Gibraltar
special event station to commemorate 40th anniversary of the Gibraltar Radio Society. QSL cards to Box 292, Gibraltar.

SILENT KEYS

With great sadness we have learned of passing away these great amateurs:

Buz Reeves, K2GL

Just before the Christmas holidays Buz has suffered a heart attack at the very restaurant where over eighty prominent contesters have gathered to wish Buz a happy eightieth birthday few months ago.

Buz has been a great enthusiast, supporter and host to N2AA famous multi multi super station. Because of him and Bill Leonard, W2SKE, we have today the multi operator categories in the contests. Buz took care of the station set-up and skillful operators piloted it to top scores over the decades.

In the business world Buz was known as the founder of Reeves Sound Studios, which developed techniques for placing magnetic soundtracks on motion picture film, as the inventor of early tape recording technology, and the designer and developer of the stereo Cinerama wide screen motion picture process, and as the founder of Reeves ELY Company that revolutionized the radio industry by mass producing piezoelectric crystals.

As it appears at the present time, the station will be dismantled. We will miss you Buz, the big signal from the Tuxedo Park, NY and a Contest Hall of Fame member #1.

As W1WY put it in his March column in CQ Magazine:

"We like to remember the party (80th birthday) not as a 'last hurrah,' but as a parting farewell to a 'par excellence' contester who will be missed worldwide by the contest fraternity. We have a feeling that the K2GL crew will still be active competitor as multi-multi in the future.

Farewell old friend, rest in peace. We will be thinking of you come contest time in October and November."

Don Riebhoff, K7ZZ

also known as CT4AT, XV5AC, XU1DX, 1S1A, FM5FC, Potomac Valley Radio Club member, and one of the world's best contest operators of the 70's died suddenly in a head on automobile crash near Lisbon, Portugal. Don has been a memorable personality, frequent visitor to Dayton Hamvention hospitality suites and a great friend.

Don had big plans and had rebuilt CT4AT over the past year to include 2 element rotary beam for 80 m.

We will miss you Big Don!

Hal Harris, PY1ZAE

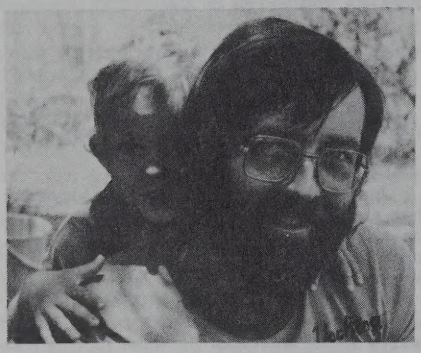
passed away in early December, he was known for PYØZAE operations and contest operating.

Our thanks for above material: The DX Bulletin, JAØJCJ, DJ9BZ, K2SS, SMØAGD, SP3BQD, PVRC

AFRICAN NOTES

Sam Ford, ZS6BRZ

Greg Smith, ZS6BPL



Each year, in the CQ WW DX contest results for Africa in the Multi operator, Single Transmitter category, one finds the ZS6BPL callsign very prominent. The first time I heard Greg, ZS6BPL was in 1979 when I worked my first major contest in the single band, QRP category. His signal was so overwhelmingly strong that the psychological result was that I did not even submit my logs. Each year since then, I have always listened for Greg, perhaps using his progress as a reference point for my own rate per hour... just gotta catch up with him!

Greg Smith was born in U.K. and studied to become an Electrical Engineer at Brunel University. He became a radio amateur and operated the Club Station G3UBR in many contests. He emigrated to South Africa in 1976 and there he operated with Richard Howes, ZS6BNX, in 1976/77 CQ WW DX contests multi - single category. Both Rick and Greg worked for Racal Electronics (now Grinel Electronics of which Dave Larsen, ZS6DN was the head). At that time Greg did not have his own station, he was living in the apartment which prohibited any antennas on the roof. In 1978 Greg got married and moved out to his present QTH in 1979. His first antenna was Hy-Gain TH3-Mk3 which he used until 1981 when he put up his two element cubical quad with Yagi type directors - shades of the "Razor Beam" - with the exception that he had additional 15 and 10 m reflectors. On 40 m Greg constructed a 2 element yagi with a 0.11 wave spacing (16 foot boom). The elements were enormous - full size, two inch diameter at the boom, tapering to 3/8 at the tips. On 80 meters he had a delta loop for a very short period as well as a 1/4 wave vertical in the front garden. He eventually settled for a 1/4 wave sloper in place of the Delta Loop, so he had two 80 m antennas with which he had good success. The sloper faces North but has reasonable pick up east and west. Last year was also first time that he became competitive on 160 m, he put up a 1/4 wave vertical using the tower and a gamma - match arrangement. The gamma match was made up with rods lashed together around the framework of the tower to increase the effective diameter.

All the equipment used was home brew. In the transmitter, Greg used first IF of 1.4 MHz, and second IF was 35.4 MHz, using a low power of 10 W coming from the exciter, to inhibit parasitic IMD. The power amplifier stage used Motorola MRF 428 transistors giving him 100 W output. In the last two years Greg build the linear amplifier using pair of 3-500Z's. His receiver is synthesized and is driven off a memory board. He can transmit on four different frequencies on any band or operate split. The transmitter incorporates an RF speech processor.

During contests Greg uses an Olivetti M-21 computer to assist with dupe checking and logging which gives him print out in order of time, but not by band. Lately he was starting the contest on 40 and 160 m. His best bands were 15 and 10 m, although 20 m has yielded some very good runs for prolonged periods. As with many contesters south of the Equator, Greg agrees that we do not have optimum band conditions and that we seem to have disadvantage of competing with stations in the Caribbean who have openings almost all of 24 hours. Another area he feels has very good propagation is the Canary Islands, they have openings to both East and West to high density contesting population.

Unless he receives a QSL card and is requested to send one in return, Greg does not as a rule send QSLs for all the contest contacts, as he feels that most competitors will at one time or another have worked at least one ZS station on most of the bands. He does not unduly worry himself about awards although he has close to 280 countries worked with at least 250 confirmed, he has just not had the time to apply for the DXCC! He will, however, go after rare countries and regrets that he has missed both Clipperton operations and VU7 due to work commitments. He has given DXpeditions a lot of thought, but it is the question of having ready cash to undertake such a project. He would certainly help out on a 3Y DXpedition if the transport was available. He is also considering getting a contest group together for Southern Africa.

Lastly, Greg does not mind net operations, although he does not go out of his way to join large nets to snare rare one. He will stay in a net if the net controllers ask him to - when the time is available. (ZS6BRZ)

YASME FOUNDATION

W6KG & W6QL DXPEDITION

MAYOTTE ISLAND, FH/W6KG

We have completed our operation as FH/W6KG and made 8000 QSOs with amateurs in 144 countries.

We stayed in a small hotel on top of a hill overlooking Mayotte islands. There are no embassies or consulates there, so we could do very little to arrange for our next stop. They have a requirement in many of the islands and countries in the Indian Ocean, that you cannot buy an airline ticket one way to any place. You must buy an airline ticket, and if you use one half of the ticket you are entitled to a refund sometime in some amount. We are collecting lots of unused airline tickets and sure hope it is true we will get refunds. So far we had very little success in getting any money back on unused tickets.

We operated from Mayotte in CQ WW CW contest and made over 2000 QSOs. The pileups on the air were enormous when you are the only station on the air in a rare DX location.

COMOROS, D68QL

We made 9000 QSOs with hams in 152 countries operating as D68QL from Dec. 13 through 30, 1986. This was our best record so far on this trip.

There are only two other licensed amateurs in this country: Bill, D68WB, and Alain, D68AM. Bill is an American Doctor who has been here for the past 10 years and was great help to us. He is associated with a missionary group here, all of whom assisted us in many ways. The procedure to obtain a license includes a meeting and approval of the Commander in Chief of the Armed Forces of the Comoros Islands. It cost 160 US Dollars for our licenses, which is the highest we ever paid. This is not very much, however, when compared to other prices here; for example, two Coca Colas cost six US Dollars.

Our triband antenna was in an excellent location on the shore of the Indian Ocean, with two guys secured to a rock actually in the Indian Ocean. We were inspected twice by local Police, who kept saying "Who are you sending messages to?"

The weather is very hot and humid, and, for the first time ever, we really enjoyed having air conditioning available (usually we disconnect the air conditioning unit and connect our radio to that electric circuit). There is no QSL Bureau on Comoros, all QSL cards for our contacts should go via YASME.

73 and 88! Iris and Lloyd Colvins

GOLDEN JUBILEE AWARD

The Golden Jubilee award has done more for DXCC than a sun full of spots! The bands have been positively jumping with DX and DXers chasing the award. Many recently inactive DXers have warmed up their radios for the first time in moths: "I had been pretty much burned out of HF DXing for the past few years, but the Golden Jubilee seemed like fun thing to do," writes one East Coaster. "This was fun; we should do this every 50 years" says another.

The key word is fun, something sorely lacking in the DXCC program in recent years. Let's hope the DXCA notices the interest in the Golden Jubilee, and includes some fun activities in their proposed e tructuring of DXCC.

TDXB Golden Jubilee Honor Roll

Call	100th QSO	
W6GO	870103	0042Z
AA4S	870103	1438
AA2Z	870103	2202
W6EL	870104	1505

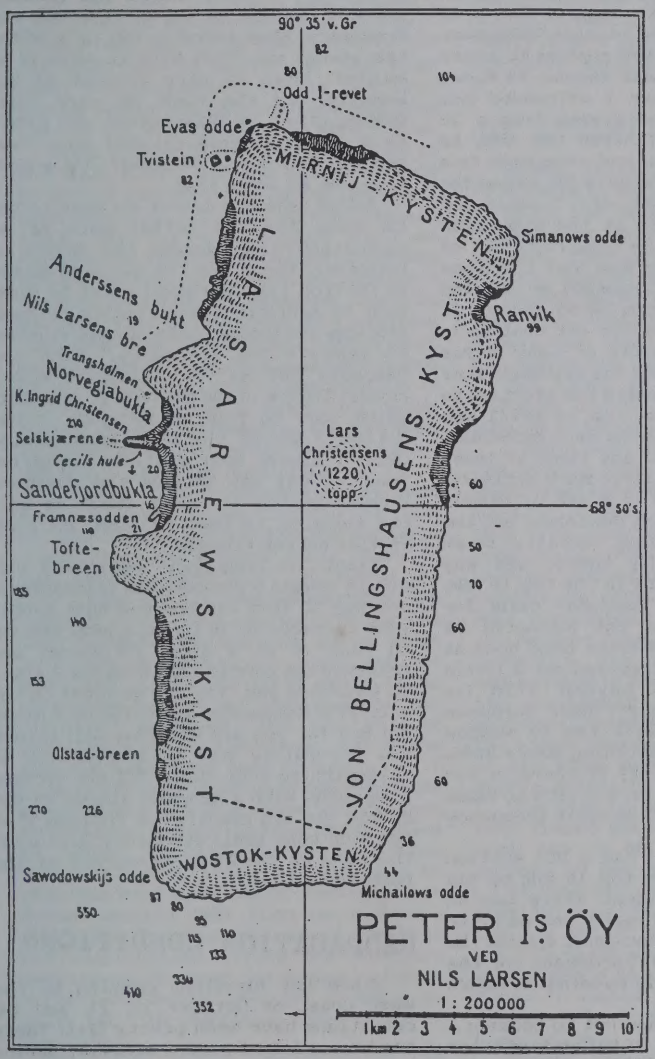
As of Thursday Jan. 8, 13 applications had been received at ARRL Hq. The first two were K1MM and AA2Z, who turned in their Golden Jubilee applications directly to Don Search, W3AZD on Sat., Jan. 3. The TDXB continues to believe that it is the time/date of the 100th QSO that shows real DX prowess; send your score to TDXB for listing in the Honor Roll. (The DX Bulletin, VP2ML)

PETER I. Island

Erik Sjölund, SMØAGD

In spite of low sunspot numbers DX keep pouring in. By now everybody should have worked the 3Y1EE and 3Y2GV Peter Island DXpedition.

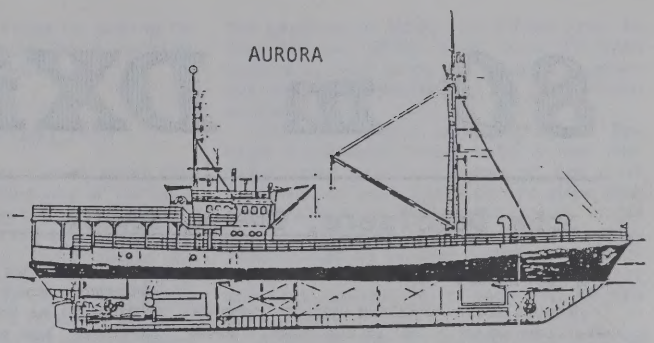
I have found an old map which might be interesting for readers of RADIOSPORTING. It was drawn in 1929, during the first landing ever, by Captain Nils Larsen at the research vessel NORVEGIA. He and his crew built a small depot house and hoisted the Norwegian flag at the west coast in Sandefjordbukta. The size of the island is apparent from the scale.



19 years later, in 1948 Captain Larsen made it again, when he was skipper of the Brategg. Unfortunately this expedition was forced to leave the island after a few days due to heavy pack-ice.

The third reported landing took place in 1982 when 10 persons from the cruising ship the World Discoverer landed with two rubber boats in Norvegiabukta. One of the passengers on board wa Josephine Clarke, WB6ZUC. She was probably the first radio amateur to see this remote DXCC country (See RADIOSPORTING Dec. 1985 issue).

The present DXpedition was organized by the Norwegian Polar Institute to map and research the



island. One of the tasks is to update the map from 1929, and also determine the island's exact position.

The vessel use is the AURORA, 54 meters (175 ft) long and built for antarctic conditions. It is equipped with an helicopter which might be necessary to use for landing on this island which most of the time is surrounded by dense pack-ice. Einar, LA1EE and Kare, LA2GV are paying members of the DXpedition, filling available transportation capacity.

The island is covered by glaciers up to 1500 meters high, so the helicopter could be useful also for the hams to find a good operation site in order to avoid another Malpelo syndrome.

The cost for the amateur's participation is very high and every contribution will be very much appreciated. If you feel like helping, contributions from USA are tax deductible via Northern California DX Foundation (NCDXF), the major sponsor of the project.

I am leaving for Tanzania, far away from the Swedish winter. Good luck to everybody and next time I will have some information from Africa.

73, Erik, SMØAGD

More on Peter I:

Bob Winters, KD7P didn't make it to Peter I. His trip was cancelled at the last minute, when the NSF withdrew its offer of funds. The USCG Polar Sea continued on to McMurdo Base on its regular ice-breaking tasks. Bob will spend about a month in McMurdo and promises to activate Antarctica on 80 and 160 m as KD7P/KC4. QSL to KA7MLT.

3Y1EE and 3Y2GV landed on Peter I and fired up on 20 and 15 meters SSB and CW on January 23. On 15 m they were transmitting on 21.195 and listening either on 21.165 or 21.270, 280, 290, 300, 310 etc. as suggested and described by Eric, SMØAGD in previous issues of RADIOSPORTING. Looks like an excellent operation. It appeared that there was a pirate operating 15 m CW at the same time when they were operating 15 SSB. The stay was extended until Feb 5th. QSL manager is LA6VM.

The usual contingent of policemen was around. Could it be that they were the list "operators" who didn't know how to work the rare one on their own? Occasional slip of the finger meant transmitting on wrong frequency, but who can master all the buttons on those high tech rigs?

Did you work them? You should have. VE3BMV/W2 made it without an antenna (almost). When I heard that the expedition is on (earlier than expected), I scrambled through the boxes to find all those things that I needed to get on the air. "Up" went the 18AVT stuck in the snow on the ground. SWR didn't look too good, so I put one radial for 15 m going South and half an hour later I got 3Y2GV on 15 m CW. Thanks Kare, one more little pistol made it! (VE3BMV)

80 m DXing

John Devoldere, ON4UN, AA401
PO Box 41
B9000 Gent, Belgium

CW A LOST ART?

Why is there so little activity from US stations on 80 m CW? In the past, I have been on 3501 plus minus QRM almost daily between 0530 and 0630Z or later. The activity has been very low, with the exception of a few regular stations. W6RJ has been worked almost daily, while W6TSQ, with a simple dipole but a good QTH, is making it one day out of two. I often have to call CQ DX for 10 or 15 minutes, before getting a reply, while at the same time I can hear lots of stations on the SSB portion of the band with S9 plus signals. Is CW really a lost art? I know it is definitely the better communications mode when it comes to dealing with weak signals. It is also the mode that attracts fewer of the mentally unbalanced characters. Guess it takes a little more brains to work on CW than it does to grab a microphone.

THE CQ WW CW CONTEST

The conditions were fair during the CW section, but nothing outstanding. The better DX stations worked were: VQ9QM, VS6DO, ZS5MY, HSØA, HC8A, 6Y5J, 8P9AG, VK3XB, VK3NC, VK5KL, YBØARA, 9N1MM, KP2N, BY4AA, BYØAA, OK1XC/JT1, 5H3ZO, KG6DX, UV1OO, A71BK, 5T5XX, VP2MU, VP5X, N4RP.C6A, W6KG/FH, VP9AD, PJ7A, P4ØA, J6DX and hordes of exotic and less exotic USSR stations. Only a few weak signals were coming from Japan. Amongst the better West Coast stations that were able to break through the Mid West and East Coast QRM were: W6RJ, W7CI, N6ND, K6NA, K6XT, K9DX/6 and N6AO. Good show, because conditions were fair at best, and the competition was fierce! My new cascaded International Radio 400 Hz CW filters also helped me to work weak ones much better than I could have done with the original 500 Hz Kenwood filters. Plus, of course, the modification that reduces the 940's VCO noise output by 10 dB. My Kenwood is now much quieter. Next month I should give you all the details about the modification. The "problem" now is that I can always find a little hole where to operate on CW, but I get complaints that the frequency is busy. It then appears that the other guy is 200 or 300 Hz off my frequency, and totally out of my passband. Now I usually "QRL?" in the WIDE-IF position to avoid this problem, before starting to use a frequency.

OPERATING MANNERS

One particular operator in a South European country makes the operating on 80 m in Europe a real "pleasure." He is always clearing "his" frequency by the brute force technique. No, he won't call CQ on a busy frequency just like that. He will ask if the frequency is in use. Maybe even twice. He will have several stations telling him it is, but will nevertheless call CQ DX for about 3 minutes. He is extremely loud in Europe, although he claims to be running only 300 watts. In addition, his signal is extremely wide, typically about 20 kHz. He speaks very little English, and can only make stereotype QSOs. Getting into an argument with him is impossible, unless you speak his language. He is the typical example of a "all mouth, no ears" station (alligator). He is supposed to have replies to every CQ. If he does not hear anyone, he makes up QSOs! Last year I witnessed him working VK2AVA, and giving Arie a 20 dB over S9 report. After the QSO, he called QRZ Australia, and came back to a VK3 station, which he gave 59, called the operator by his name, etc. I could not hear a whisper. Arie at the same time was over S9. Then Arie came right out of the blue and told our man that there was no VK3 station on frequency at all. And our man had given him an S9 report! It would be funny, if it was not that he is ruining the DX pleasure of many by his abnormal behavior and his extremely poor signal. Today I witnessed him starting to call CQ Asia right on top of XX9XX who was 59 at that time with me... Incredible. Give me the CW band any time, at least if we would have a little more activity.

I have tried the 75 m SSB DX window numerous times during December, but the amount of QRM has usually been frightening. I really cannot see why everybody wants to be in the top 10 kHz. The IARU Region 1 bandplan calls for 3775 - 3800 kHz as the exclusive DX window, while the US extra band goes as low as 3750. Can't we spread out a little more towards and beyond 3750 (in Europe)? Almost daily I hear European stations calling inside the DX window (3790 to 3800) and listening above 3800. What is that good for? If there is too much QRM, split is fine, bet let's go below 3750 to work USA by the split frequency method!

The other day, we had a UB5 station taking up all of the top 10 kHz by his horrible sounding signal. There was no major contest, so he really had no right to be there working locals. It spoiled the chances of DX for all Europeans for the better part of a whole evening! He didn't work any DX.

Another example how not to behave: A G-station calling CQ DX but working other G stations right on 3795 at 1500Z, while Scandinavia and Eastern Europe have sunset DX propagation. Being at least one hour before he could "possibly" have propagation to the Far East or the West Coast (long path), he was asked to move outside the DX window. He replied that he knew this was the DX window, but he wanted to reserve himself a good frequency (in time), because one hour later he would be able to hear the DX. In the mean time he could not care less about spoiling other station's chances of working DX at their sunset. What if everybody would act like this?

On December 29th, after a good long path opening to N7UA, Len, KHØAC came back to a HA station with a 59 signal (on 3793). The first thing the HA did was to make a list and impose it on Len. He could just as well have suggested to work split frequency (e.g. 3802/ 3770-3775), which would have worked out much better, and would have been much fairer! Giving the stations with a "poor" signal a "chance" by working from a list, is not fair. In addition it is like shooting fish in a barrel. If the poorly equipped stations can work all the DX they want this way, where is the challenge to improve their station and antennas?

N7UA's long path window usually lasts 10 minutes in Western Europe. The other day a group of good DXers including I5MPH, OZ8BV and others were working Bob, when a well known EI8 station started calling CQ DX 1.5 kHz off the frequency. When asked to QSY up a little, the answer was "tell N7UA to move if he wants!" That is very typical of his behavior all the time. He sure loves QRMing other DX QSOs. After all, didn't he have his license revoked some time ago for deliberate jamming? It's a good thing we all know that.

All of this has driven me down to the CW band for the better part of my operating time during the month of December. There are two major problems on CW from the operating point of view: lack of sufficient selectivity by many stations and impossibility of most stations to operate "on frequency." With the cascaded 300 Hz (International Radio) crystal filters in the TS-940S, it is usually quite easy to find empty slots in the bottom 3 kHz of the band. When asking QRL?, I always hear stations replaying "yes" or QSY way outside the passband (when I switch to wide). There is only one solution to that problem: let's all install better filters!

Exact "on frequency" operating will always remain a problem with transceivers. One way to find out how you must handle your transceiver is to ask a local station to tune in on a given CW signal and transmit the carrier beat tone via 2 meter to you. Then you "try" to go right on the carrier's frequency, and listen on 2 meter rig how far you are off. This will inform you accurately how much your rig is transmitting your signal off the receive frequency. With a properly aligned TS-930 or 940, you are exactly "on frequency" if the side tone audio frequency is exactly the same as the audio frequency of the received signal.

PROPAGATION CONDITIONS

Since the excellent opening to the West Coast on October 22, 23, and 24, conditions have been pretty flat. There has been a lot of aurora activity during the month of November, and many days even the East Coast of the USA was barely audible. Often the signals that made it came in from Southwesterly direction on a heavily bent path. November 11th was such a day that only few East Coast stations made it over here, most of them being W4s. A day to forget one would tend to say.

When the aurora absorption is like that, one can expect the most extraordinary things to happen. Less than 10 hours later, N7UA was peaking over S9 on the long path here in Belgium, and that was for over 30 minutes. I did not say Europe, I said Belgium, because it was a very localized opening, more likely due to a

ducting phenomena (see RADIOSPORTING Dec. 1986, page 23). Both ends of the ducts were in the Grayling, and apparently the duct showed a opening or aperture which illuminated Belgium very well. At the same time, N7UA was not heard in Germany, 200 miles away! I have witnessed DJ4AX working N7UA with 57 signals while I could not hear a beep (less than 200 miles apart). It appears that the period just after a heavy aurora can produce these relatively loss-free ducts. You only have to be lucky to be right there where the opening in the duct illuminated the Earth! (I have noticed similar openings on 20 and 15 meters right after the aurora between VE3 and Indian ocean. Nothing else would be coming through!

de VE3BMV)

In the past two and a half months I have tried to monitor 80 meter on a day-by-day base, as far as conditions to the USA and more in particular the West Coast are concerned. During the same period nearly 500 QSOs with stations from the 6th and 7th US call area were logged.

Generally conditions were quite good to the West Coast, and the big guns could be worked almost daily. During December, peak condition occurred on the 17th and 18th, and were preceded with an exceptional long path opening to Western Europe on the 14th. Another long path opening occurred on December 25 and 26, one day prior to the short path condition lift. Short path conditions peaked again on December 27 and 28. It has been stated by others before, and I must confirm it (however based on a relatively small number of observations),that the long path is never excellent on the same day that the short path was excellent.

I have carefully checked all my logs, and it is very obvious that the long path between California and Western Europe is a matter of low sunspot cycle years. It has been argued that 80 meter DX conditions are not much influenced by the sunspot cycle. This may be true for the dark paths,but the marginal paths, where both ends of the link are in sunlight, are definitely influenced. This is logical to, as during low sunspot activity years the sun activity is lower, and the D-layer absorption is less out-spoken that during sunspot maxima (at dusk or dawn). I have previously mentioned how sometimes signals from the West Coast can be bent Southwards, and arrive from the direction of South America. Recently I have witnessed at several occasions that LU stations were much louder coming across North America (NW) than on a direct (SW) path. The reason must be the high MUF distribution across the Southern hemisphere, "forcing" the signals to travel North (into North America) in order to leave the high absorption areas as fast as possible.

The night between December 29 and 30 the polar cap absorption must have been the lowest I've seen it in years. Early in the evening all European signals became very weak, and at the same time the signal angles became very low. The Beverage antennas showed 40 dB F/B even on signals coming from distance as short as 500 miles. At 1900Z VE8HL (zone 2, Baffin Isl.) was 20 over S9! The next morning KL7Y and KL7NT were S9 or better for almost 2 hours, until 0900Z (1 hr 15 min after sunrise here!) The signals were true great circle bearing, exactly 340 degrees from my QTH. It is not often that my 340 degree Beverage produces good DX signals (beams right into the magnetic North Pole). Prior to coming to 80 meters Dan was on top band working Europeans with 579 reports.

SPECIAL PROPAGATION

In the previous issue I wrote about the exceptionally good performance of vertical antennas when shooting into polar areas. I was very pleased to find the reason for it described in the same issue of RADIOSPORTING (page 21). W3LPL explains the phenomena of polarization discrimination and how it is always present on 160 and sometimes on 80 meters. Based on my own experience and assuming the splitting of the signal into two magneto-ionic components and the difference in absorption near the gyro-frequency is the only influencing factor, I would say it is nearly always present on 80 on paths into the polar regions.

DX ACTIVITY

Macau, XX9XX has been a regular on 80 m while he (Hiro, JA5DQH) was there.

TP2CE has been active on 80 m from Strassbourg, where the council of Europe resides. They are applying for a new country status. Another 4U1VIC?

Peter, OH1RY concluded his Pacific trip with another good 80 m show from A35RY, even when conditions were quite bad during his stay on Tonga.

Jim, VK9NS is on 75 m every Monday morning around 0700, and with good signals in Europe on the long path.

I had a sked with KH9AC and had some JAs calling him for me, but our Wake Island station did not show up. Instead I managed to work KX6DS, which is a nice shot from here, he was actually coming long pass, over the South Pole. The smallest amount of geomagnetic activity renders any propagation across the North Pole impossible. One might wonder, why at the same time, propagation seems to be possible via the South Pole. My explanation is that signals travelling via the Southerly route are much more scattered (over wider angle) because of the longer distance involved, so that less of the total signal is absorbed by the Aurora Australis (South Pole aurora).

I am glad to hear that our JA friends have finally gotten a little more space to work SSB on 80 meters. The new band spreads (?) now from 3792 to 3805.

SP2HNF/MM has been putting in a terrific signal from the central pacific on the low end of the band. On Dec. 27, he was 579 on CW, while he gave his position as 171 deg W and 11 deg S, which is near Tonga! I wished we would hear signals like that from the pacific islands from time to time.

9N5YDY had a 7 hour permission to operate 80 meters on December 27th. His signals were 599 on CW.

TI9W had a real good signal and gave many Europeans a new one.

Both TA4A and TA2E have been active around local sunrise working into the US as well as around 1400-1430, long path into the West Coast.

Between early December and late January we are experiencing in Western Europe the "crooked path" propagation into Japan. From about 15 minutes before our sunrise until 15 minutes after sunrise, the band opens up to Japan and sometimes produces signals up to S9. The path is across Northern Siberia, completely along the terminator (gray line). Just prior to the JAs we often hear zone 19 UA0s coming in very loud. A similar path exists between Scandinavia and W9 land around sunrise in W9.

Dan, KL7Y has been making a few more Europeans happy with a new one. Alaska and Hawaii are two of the most difficult to work spots on the globe from Western Europe, because the great circle path goes across the magnetic North Pole. This brings me to the complete absence of KH6 stations on 80 both this winter and last winter. What happened to the outstanding signal of Randy, KH6XX?

N7UA has the outstanding signal from the West Coast on the long path into Western Europe. This of course is partly due to his Northern location (47.44 deg). Around New Year, his sunrise coincides (within minutes) with my sunset in Belgium. The peak is very pronounced and typically lasts about 5 to 10 minutes. Bob's Bi-square antenna is another reason for his outstanding signal. A Bi-square is a two-wavelength long loop open at the opposite side of the feed point. Bob's Bi-square is a 2 element affair with both elements fed via an open-line phasing feed system, which allows him to switch directions. The top of the antenna is said to be at 170 feet! In Western Europe we wished Bob would hear as well as he is getting out. When Bob starts hearing me, he is usually S7 with me already!

It's nice having good friends! After having discussed my outstanding needs for 80 m DXCC, Ray, N6DKP called Bob, KH9AC by telephone (on Wake Island!) and set up skeds for me. Bob, W6RJ assisted on the frequency (we had to move KH9AC from 3526 to 3533 because of commercial QRM, and KH9AC does not yet have the extra class privileges). Thanks to those wonderful friends, No. 321 (all time)/307 (actual list) is in the pocket.

Thanks to all those who read my appeal in the December issue of RADIOSPORTING. Bob, W6RJ has also been very helpful in stirring up some activity from the Northern California DX Club members. Thank you Bob, and thanks to all club members for giving me the required number of QSOs for the NCDXC anniversary award (58 members worked to date).

TOP BAND IN BELGIUM

Starting December 31, at 2300 GMT, Belgium was the last country in Europe (not counting Albania) to grant privileges to it's Radio Amateurs. The frequency allocation is 1830 - 1840 on CW, and 1840 - 1850 on phone and CW. Power limitation is 10 Watt output as in most other European countries.

The WARC bands have been released as well: 10.1 - 10.15 MHz only for CW, as well as 18.068 - 18.168 on CW, and 24.890 - 24.990 MHz (phone and CW). The new power limit in Belgium is 150 Watts DC output or 600 W PEP output.

Operating top band from Belgium was like going on a DXpedition to a new country, as everybody needs this one! (See article in this issue.)

By the way, the QSL information in the W6GO list has been invalid for a long time. I handle all QSL's personally. Please QSL directly to:

PO Box 41, B9000 Gent, Belgium.

Till next month!

John, ON4UN

160 m Bulletin

Founder - Stew Perry, W1BB

Top Band News Americas

Dennis Peterson, N7CKD

4248 A Street SE, Sp. #609, Auburn, WA 98002 Tel. (206) 833-7243

FIRST 160 M WAZ COMPLETED

RADIOSPORTING has just learned that Dave Wilson, G3SZA has completed first ever WAZ award on 160 meters. What seemed just a while ago like an impossible task, has been accomplished! Dave has also over 200 countries on 160 confirmed. Congratulation to Dave for achieving this "Voyager" flight of 160 meter operating!!!

(VE3BMV/W2)

TOP-BAND DXCC LIST NOW CURRENT

Please be advised that I now have an updated listing of all of the certificate holders of 160 meter DXCC. This list was made available from the ARRL and is current to the present certificate number of 187 dated October 06, 1986. When I first started watching the list grow back in November of 1982, there were only 20 operators with this coveted award. Now, in a little over 4 years the numbers have grown by leaps and bounds but only because many an operator has found that it doesn't take a whole lot of real estate to put together an antenna that is effective and plays well under the conditions for one's own QTH.

If anyone is interested in a computer print-out of this listing, you may have a copy simply by sending an SASE with enough postage to cover the return of 4 standard sheets of paper in a business sized letter. I will also try to make a quarterly update here in the 160 column commencing with #187 and up.

Predictions for HPF/LUF
(Highest Possible Frequency)
(Lowest Usable Frequency)

In the January issue, I made reference to a working program written in BASIC about being able to determine the optimum times for operating on the low bands. Since that time, thanks to VE7BS and a couple of other computer experts, we have been able to update this program by adding a screen dump routine and also giving the operator choice of selecting either solar flux or sunspot number. The HPF calculations were wrong, but since Bob, VE7BS wrote to the authors of the original program and secured the necessary information for the change; they too are now correct and I must say that the program functions flawlessly.

The only drawback I can see now is the inability to be able to merge the latitude and longitudinal files shown in the ARRL antenna hand book at the end of the book on pages 16-5 through 16-8. If anyone has a clue as to how I may do this I would certainly be interested. What I'm looking for is a way of plugging in the co-ordinates say for VU ** New Delhi - Lat/28 deg. N and Long/77 deg. E. The program would then find this data or information and display it accordingly and continue to run the program without the operator having to insert the lat/long data. When the prompt is asked for what country, the operator would type in his choice or country of interest and the program would search for that area and the appropriate matching coordinates. Maybe this sounds silly, but it sure would be nice and convenient. Can anyone help ? This program is currently being operated on Commodore 64 computer but with a little know how it could certainly be adapted to other systems. If anyone desires a running program for their 64, send a blank disk and $2.00 to cover postage and handling and I will be glad to furnish a copy of the current program with instructions on how to change the coordinates to reflect your own.

BANDPASS REFLECTIONS

There is much to be said as far as conditions the past few weeks. I think I've worked more DX the past few days than I can remember. Conditions here have been splendid. Either we have been having some superior conditions or my antennas are working great. Some of the DX heard and worked from this location include the following:

CALL	FREQ.	DATE	TIME
LZ2DF	1823	01-01	0400
ON4UN	1832	01-02	0600
JF1NZW	1908	01-03	1113
JA7NI	1908	01-03	1130
4X4NJ	1831	01-03	0445
SM6EHY	1824	01-03	0620
EI8H	1842	01-03	0737
NP4A	1839	01-03	0751
HK0HEU	1839	01-03	0826
ZP5ZR	1836	01-03	0827
CP8HD	1836	01-03	0830
YU2TW	1825	01-06	0443
RZ1OWA	1837	01-06	0450
KX6DS	1823	01-06	0620
HH7PV	1840	01-07	0407
XE3AR	1827	01-07	0412

An excellent source for low band information as to who is on the bands is "THE DX BULLETIN" Edited by VP2ML/Chod Harris. If you want a good source for low band DXpeditions, frequencies, time, bands and from what state heard here is a good band-aide.

The DX Bulletin

GM3YCB	1828	0240	8	MA
HB9AMO	1832	0538	9	RI
HC1BI	1832	0314	17	FL
HG9R	1832	0313	17	FL
HH7PV	1843	0409	7	WA
HI8LC	1832	0433	5	WA
HK0HEU	1836	0830	3	WA
HK0HEU	1839	0430	8	RI
IP9DH	1838	0513	9	RI
J37XC	1807	0118	15	FL
JA7NI	1908	1130	2	WA
KH6AT	1836	0545	13	MT
KH9AC	1826	0736	12	RI
KL7GKY	1842	0717	6	RI
KL7HBK	1823	0350	14	FL
KL7Y	1830	0302	11	MA
KL7Y	1830	0352	14	FL
KP2/K5HK	1833	0316	16	FL
KX6DS	1826	0620	3	WA
KX6DS	1826	0651	6	WA
LA7JO	1833	2352	9	IL
LZ2DF	1832	0355	14	FL
LZ2DF	1829	0315	11	MA
OE1ZL	1835	0440	9	MA
OH1XX	1822	0422	11	RI
OH7OK	1832	0455	7	MA
OK1ATP	1828	0332	9	RI
OX3KD	1836	0325	11	IL
OZ7HT	1833	0704	6	MI
PA/W3HHN	1832	0254	11	NH
PA0HIP	1832	0046	7	WA
PJ2/ W1BIH	1833	0122	15	FL
RA6AEV	1844	0507	10	NH
RP2BIH	1836	0555	8	IL
RW3QQ	1838	0508	9	IL
RW3QQ	1838	0504	9	RI
RW3QQ	1842	0505	7	MA
SV0AA	1832	0540	4	MA
TF3KG	1836	0413	4	WA
TI8ZB	1846	0154	7	RI
TI9W	1845	0418	9	NH
TR8JLD	1833	0215	12	MA
UA9CBO	1836	0440	10	MA
UA9MS	1833	2203	9	RI
UB4XMB	1836	0603	8	IL
UQ2PQ	1833	0634	9	RI
UQ2PZ	1832	2329	9	IL
UR2RGN	1833	0333	7	MI
UV10O	1830	0109	8	WA
UV9FM	1832	2230	10	NH
UV9FM	1833	2257	9	RI
VO2CW	1826	0500	11	MA
VP2VA	1842	0401	10	RI
VS6DO	1909	1450	4	WA
WL7E	1837	0510	3	MI
Y23EK	1836	0644	2	AL
YN3EO	1848	0435	10	MA
ZP5ZR	1836	0827	3	WA
ZS4PB	1839	0352	4	WA

DX/contest repeaters.

Philadelphia, PA	FRC	147.270/147.870
Toronto, ON	VE3TDX	147.330/147.930
Hamilton, ON	VE3PDX	147.345/147.945
Northern NJ		147.180/147.780
Long Island DX, NY		147.300/147.900
Washintgon, DC	PVRC	147.300/147.900

160 m WAZ Award

This award is being offered by CQ Magazine for completion of all 40 zones having been worked on top-band. Unfortunately, there seems to be a slight problem for some of us here on the West Coast, as we seldom have an opening into a few of the zones to even be able to consider the possibilities of completing WAZ on this band. (It is equally "bad" for everyone in the world, one has to work the "whole world" regardless where he is located. WAZ was always tougher than DXCC! Ed.) I would also like to solicit your help in informing me as to your current standingson on how many zones you have worked and have confirmed. Maybe I can place a zone standings chart in this column every month. In order to do so, I need your input. The last known information was printed in the January issue in my column.

Synergistic CW Processor

A little over a year ago, while I was still putting out the West Coast 160 Bulletin, I wrote an article concerning a new product on the market at that time. That product being the new Super-CW Model 10 CW processor. This small piece of gear might not have all answers to successful DXing on the low bands, but it certainly makes a difference between hearing and not being able to hear. The effectiveness to yield a new country at times when the possibilities seemed impossible were very rewarding indeed. At first, it takes a bit of time to get use to how it works but with patience and practice one soon becomes quite familiar with its operation. Don Hildreth, W6NRW has done it again. He now has designed a new filter to actually enhance the older model 10 unit by simply adding a printed circuit board with new filter. Actually, this filter is an offset filter which is a 400 to 900 Hz filter which will pass a signal to the 750 Hz, 100 Hz bandwidth filter. The CAL (Carrier Activated Limiter) was described in Ham Radio September 1985. With the new filter add on, it is actually possible to reduce the pre-CAL filter bandwidth to as little as 20 or 30 Hz without losing the ability to copy relatively high speed CW.

There is an article on this new processor "Advanced CW Processor" by W6NRW in Ham Radio Magazine, December 1986 pp 25-29.

Model 12 CW Processor

I have just received the letter from Hildreth Engineering in regards to the new board (223/pre-limiter). Well, with the information from Don Hildreth on the phone, I decided to order the new board and install the hardware myself so as to save time and inconvenience. Since I am not an engineer or an electronics technician myself, I do like to work with electronics.

After all the soldering and hookup is complete as given in the instructions, all that remains is an initial test with power applied and the input output terminal from the receiver etc hooked up. Since it was in the middle of the afternoon when I completed the installation and I wanted a good comparison I decided to use a signal which is present on 1921.83 as a reference signal. This signal is barely audible during the day with the bare ear, however; with this add on board in the Model 10, the signal is actually lifted up out of the atmospheric noise. With the addition of this board/223 I have found that many of the random impulse noise signals present and some atmospheric static crashes have actually been suppressed to the point where they are no longer a major nuisance. I have even noticed that noise from light dimmer switches, SCR devices and some fluorescent light fixtures has been suppressed with this new board. Have you ever wished that you could control some of the QSB problems that are fought when trying to work a rare DX Station? By overdriving the unit moderately with the receiver gain control, one can actually improve the condition of QSB that is bothersome with weak signals especially on 160. I am completely satisfied with the results and improvements over the original Model 10 unit. If you have purchased the Model 10 previously and would like to update your unit, you have two options:
#1-----order Board 223, fabricated and tested for $20.00
#2-----Return your unmodified Model 10 to Hildreth. They will modify and return the unit as a Model 12 tested for $35.00 HEcorp, 936 Azalea Drive, Sunnyvale,Ca. 94086

You will actually notice a difference when you start listening with the unit and begin to hear some DX signals better than you ever experienced before on 160.
(N7CKD)
(de VE3BMV/W2: There is one important requirement: your receiver has to be very stable and finer the VFO tuning ratio, the easier to use this CW processor. With the modern synthesized rigs there should be no problem in coming down to 10 Hz bandwidth filters. The CW bands all of a sudden sound so "roomy" even in the toughest contest QRM. Another excellent application of this device is to use it with automatic computerized CW "contest machine." Most of the present computer CW interfaces are mediocre as compared to human ear. This Synergistic CW Processor might be just right answer.)

FIRST WEST TO EAST COAST RTTY QSO ON TOP-BAND

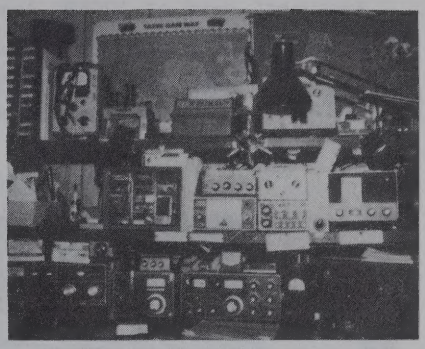
Dennis Peterson, N7CKD

Many of us have different operating preferences. With todays state of the art technology and much improved devices to enhance receiving capabilities, we can certainly enjoy Amateur Radio to its fullest.

This little story is about two operators whom have taken the time and patience to pursue the possibilities of RTTY on Top-Band. With the addition of RTTY mode to 160 meters during the past several months, Rob Koziomkowski, KA1SR in Portsmouth, Rhode Island and myself, in Auburn, Washington, we decided to try our hand at being the first stateside operators to do what hasn't been done here on 160 meters: RTTY contact from the West Coast to the East Coast of the United States.

This challenge began back on June 18, 1985 one day after the W1AW Bulletin dated April 29, 1985 stated that Amateur operators in the 1.8 to 2.0 MHz spectrum would be authorized to operate using RTTY and Slow-Scan transmissions.

When many operators heard of this, a tremendous amount of controversy broke



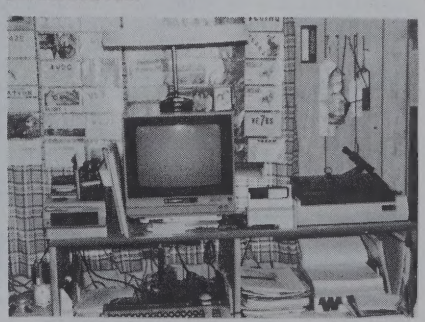
N7CKD operating position.

out. It was feared that RTTY transmissions might interfere in the region of 1825 to 1842 with CW and SSB DX work. So Rob and I decided to try to convince everyone that we should try to contain our RTTY traffic/transmissions above the 1850 portion of the band. At first it was thought that region from 1965 to 1985 would be perfect; but we had hard time to tune our antennas that high into band. In fact, we tried many times to make contact on CW, SSB, and RTTY but to no avail because of mismatch in our antennas. We then decided to try our luck at the region just below 1.9 and agreed that 1.888 MHz would be good spot.

Days and nights of listening to WWV reports for good propagation conditions were not hinting any good news. Then a break appeared one early morning back in October, when we could actually hear each other's RTTY transmissions but there wasn't enough signal on either end to be detected or printed to the monitors. For nearly 2 hours we tried into the wee hours of the early morning and nearing KA1SR's sunrise but to no avail. Still thinking that RTTY QSO was possible, we continued our listening and periodic phone conversations regarding conditions.

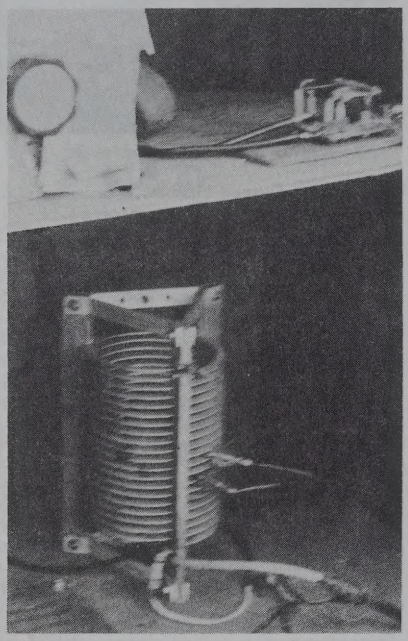
Then on December 14th 1986, as the two of us were on the band either working DX, or in my case, trying my luck at working some of the Europeans. We ran across each other on CW and noticed a tremendous opening because of our signal strengths. Immediately we agreed to go to 1888 kHz and call each other every 2 minutes until contact could be established using the standard RYRY format for tuning the receivers. After approximately 45 minutes of tedious listening and painstaking work on both parts, we finally conquered the odds on "The Gentleman's Band."

At 0810 GMT December 14, 1986, two-way transmissions between KA1SR and N7CKD on RTTY mode was established. We feel, that we may possibly have set the way towards an even newer challenge on Top-Band for additional awards and certificates.



N7CKD RTTY and computer corner.

Equipment used at N7CKD: Yaesu FT-101E Transceiver with matching FV-101B External VFO. The transceiver has undergone several Fox Tango modifications. The amplifier is a Dentron Clipperton-L with 160 meter capabilities and a few small mods.



The L - network at the base of N7CKD's modified Butternut HF6V vertical.

The antenna is modified HF6V Butternut vertical installed on a 45 foot telescopic mast and insulated from ground. It has three 29 foot top loading hat wires attached 7 feet below the top. The 15 meter decoupling stub has been removed and a four foot extension was added to the top part of the vertical. The 30, 40, and 80 meter resonator coils were left intact. The 160 meter coil was removed and a base matching network was installed in its place consisting of a 30 uH coil and a 2200 pF variable capacitor. The ground system has a 55 foot square 1 inch mesh chicken-wire ground screen laying on top of the ground. My QTH is a 24' x 48' double-wide mobile home which sits on a 55' x 90' lot space in a mobile-home park here in Auburn, Washington.

The receiving antenna is a W1WCR two-wire Steering Wave Antenna (SWA) oriented at approximately 75 degrees, mounted at the 10 foot level above a six foot high security chain link fence and is 238 ft long.

Also included in the shack for receiver enhancement is an assortment of different audio filters ranging from the Autek/QF-1A; Bencher XZ-2; Hildreth Model 10 Super-CW; and a Realistic Stereo Frequency 5-band Equalizer.

The RTTY gear consists of a Kantronics "The Interface" terminal unit, a Commodore 64 Computer with a 1541 disk drive unit, a 1702 color monitor, a Star-Gemini 10x printer and software which consists of the Commodore 64 Hamtext.

For KA1SR, Robby has the following equipment at his location on the East Coast in Rhode Island. The transceiver is a Kenwood TS-930S with a few improvements. The amplifier at KA1SR's QTH is a homebrew type using a pair of 3-500Z's.

The antenna consists of a 65' Rohn 45G tower sporting a 2 element 40 meter yagi, and a 3 element 20 meter yagi. There are 4 wires each 65' long coming off the top of the tower; actually extending out from the tower and then coming back into the tower to a common feed point and matching L-network. The L-network consists of a Johnson 30 uH coil and a 1000 pF variable capacitor. The antenna is called a Folded Unipole. For receiving, Robby uses the W1WCR 2-wire SWA antenna as well; and a multi-wire loop which is only 2 foot square and mounted on his desk in the shack. There is no tuner or matching network in the shack.

The RTTY gear is a TONO Terminal unit model 777, with the Commodore 64 computer, a 1541 disk drive, an MPS801 printer and a black & white Monitor. Software for RTTY operation is written by Rob.

I hope that many will get inspiration from our work and will not be discouraged to experiment on 160 meter band just because they don't have a big real estate or a huge tower. Try it, 160 could be a lot of fun. (N7CKD)

A BREATH OF FRESH AIR

Ivan Lee, N7IL

When Mary Lewis, W7QGP, decided to run for ARRL Northwestern Division Director a few years ago, she ran smack into the "old boy's network." How dare a female presume to tread the sacred turf of males! YL hams? They were usually welcome. Kinda cute, and fun to talk to. But filling a "man's job?!" Perish the thought!

Turned out she wasn't your average pussy-cat - she was a full-fledged tiger. But first the snide letters from some of the old boys to the members. Then the vote. The vote was impounded by a court on a technicality, so she was disqualified. Legal action finally cleared her out of court and she chose not to make a legal case out of it. She just got renominated, and she won!

When she attended her first Director's meeting at HQ, she was presented with the standard gift: An ARRL necktie. The directors apparently thought it was cute, and, well, anyway, OM Harry W7JWJ, could wear it. Then in the published account of one of the first meetings she attended at ARRL, it was reported that "Messers Jones, Smith, Brown and Lewis voted..." In case you didn't know, "Messrs" is a fancy word meaning "Misters." About the equivalent of saying, "Hostesses for the party were Betty Smith, Virgina Jones and John Black."

But Mary stood her ground. She attacked some of the old fuddy-duddy aspects of our ARRL that stemmed from male point of view, asked many "damnfool" questions, often finding no logical answers. She lost a few, but she won a few too. She collected some stalwart friends and some blood-enemies.

She has lost this round. But partly because of her, ARRL is a little more responsive to the membership. Recently, another lady won a vice-directorship. Then a third women became a director in another division. The door is now open to women amateurs and women leaders in the amateur community.

Did I always agree with her views? Certainly not. But if I wanted to tell her something, I feel she listened. Maybe as a result of some of her groundwork, ARRL will continue to grow in some desirable directions: A "co-ed," more flexible, democratic organization.

Thanks Mary!

(QRZ! North Seattle ARC Newsletter)

CHANGES AT ARRL

Billy, KR1R, is taking over the contest department from Mike, W1OD. Also the ARRL budget includes an additional clerical position in the contest department (which was cut last year). (YCCC Scuttlebutt)

HSØA

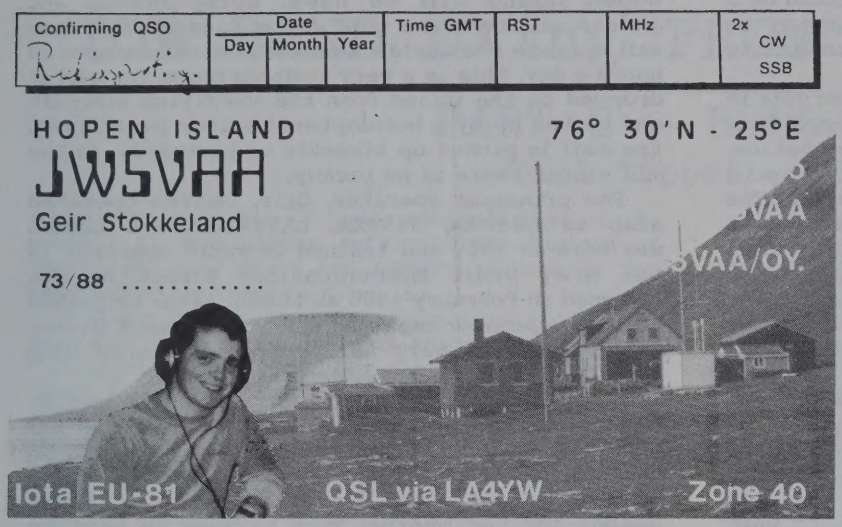
HSØA, the club station in Thailand is only permitted to operate during the contests. 1986 CQ WW CW contest was operated as multi-single by the crew of K2BA, (left, running station), DL7MAE and JAØJCJ, (right, multiplier station). They managed to work about 3300 stations. They tried 160 meters but the amplifier blew up and they managed to work only t countries, inlcuding UP9A and HB9AMO. They will try to do it better next time. A Henry 4K-2 amp at left was used by K7ZZ and a crew at XV5AC and XU1DX.

It is very difficult to get any parts and material in Thailand. Hiro has never seen any coax connectors in the store. Funds of Radio Amateur Society of Thailand are very limited and donations of parts for low band operation are needed (coax connectors, wire, capacitors, inductors, tubes, etc.) and very much appreciated. They will try to make the zone 26 on 160 available to all those trying to complete 160 m WAZ. (Tnx Hiro, JAØJCJ)

WANTED AD:
AEA CK-2 keyer for HSØA contest operation. Hiro Shiozawa, JAØJCJ, 1464 Osato, Kofu 400, Japan

Our apology!
This issue was delayed due to the flu epidemic at RADIOSPORTING. The entire staff was out of commission for about ten days.
Thank you for your understanding!

Please always use your callsign in correspondence with RADIOSPORTING.

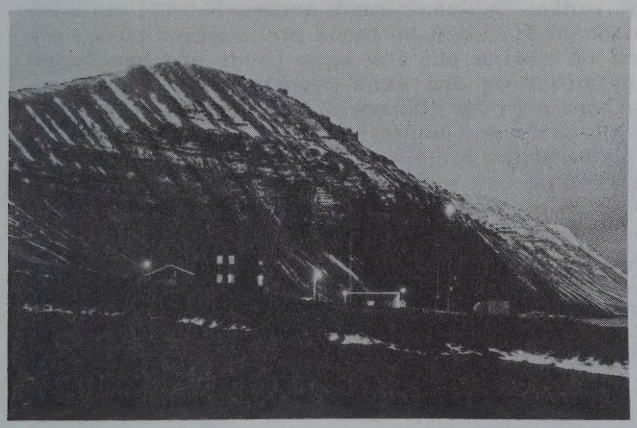


HOPEN ISLAND

JW5VAA

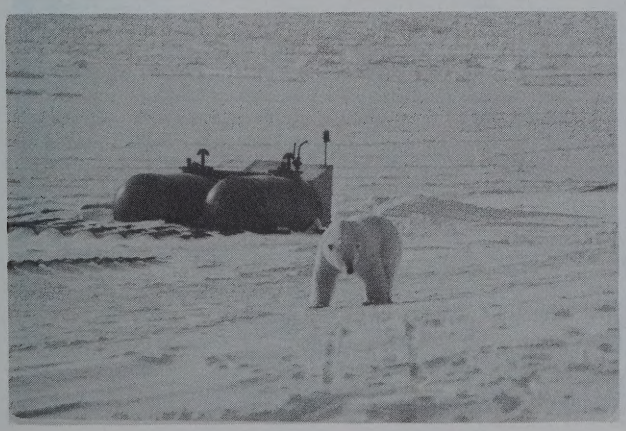
Liv Johansen, LA4YW

Hopen is a small island Southeast of Svalbard Islands and has a population of 4 persons every winter, 3 telegraphists and 1 cook. Hopen Radio, callsign LMR, is a meteorological station and the operators have a time between their observations and transmissions every three hours.



Hopen Radio, Hopen Island

There are nine buildings on the island: a two story main building, a bathhouse, a machine shop, garage, winch house, oil storage, back up station (in case of fire in the main building), storage and the NILU (Norwegian Institute for Air Research) cottage with ham radio station installed. This building houses lot of instruments for air pollution measurements and has no windows, but a great hole in the wall for all the coaxial cables.



Radio inspector from the North Pole.

Last time when JE5VAA was on the island, they had 6 dogs (Greenland Huskies), very strong and rough animals. When they eat, they eat as much as they can or are allowed to. JW5VAA told about the test to see how much they could eat. They took a dog weighing about 40 kilograms and gave him as much seal meat as he could eat, and he managed to eat 42 kilos of meat! After this feast he was laying down on his back for whole day. The dogs are used to tell when the polar bears are coming and they are a sort of safety guards for inhabitants. It is dark during the winter almost all day and it is very difficult to know when the bears are coming close to the main building. The dogs are also attacked by the bears from time. They try to frighten the bear, but bear could be very brave when he is hungry.

The electric power on the island is supplied by three General Motors generators, with one of them always running. Each generator is capable of supplying

Gustav, the cook, is trying to convert "dog power" into the static electricity.

70 kW, which sometimes during he winter could be a bit less than needed. When the cook is preparing the Christmas feast, the ham radio station has to operate barefoot to conserve electricity.

The drinking water is stored in the reservoir in the center of the buildings. The water comes from two small creeks north and south of the station, during the winter the bottom of the reservoir has to be heated by heating cables to melt the ice. The water on Hopen tastes very good in comparison to Jan Mayen (JX) water, where they have to distill seawater, which gives less minerals and tastes bad. On Bear Island (JW) there are some bacteria because of many birds on the island. Hopen Island has the best drinking water which is very clean and tastes like a spring water.

There is no natural harbor on Hopen and frequent winds make unloading very difficult. Supplies and other material have to transported between the island and a supply ships in rubber rafts and small boats. The water around the island is not very deep and this causes waves. The supply ships have to wait sometimes for weeks to get the supplies ashore.

Fuel for the aircrafts passing by is pulled ashore in 200 liter barrels and fuel for the generators is pumped ashore through the hose. There are 18 tanks on the sloping hill and they contain about 60,000 liters of fuel, enough for about a year. They have to be very careful with consumption of fuel and water.

The station is located on the East side of the island with terrain sloping towards the east and south. Path to the north and west is a bit obstructed, but the amplifier and good antennas help.

Hopen Island was discovered by a British, Thomas Marmaduke. He was on a expedition there in 1640. Later on, for generations, it has been a great hunting ground for the polar foxes and bears. In late 1942 a Russian merchant ship was torpedoed and nine persons survived and came to Hopen Island. Six of them died during the winter. The remaining three survivors were discovered by a German aircraft and later on were picked up by a German submarine. It is unknown where they were taken but some people say that one of them was a woman telegraphist and is still alive. Later on Germans maintained a weather station until the end of WW2. The Germans were ordered to maintain the station until late 1945 when the Norwegian crew was sent to maintain the facilities and Germans returned home. Since that time the island was populated only by Norwegian crew.

This winter 1986/87, half of the population on Hopen Island will be hams. Both, JW5VAA and JW6EAA will be there this winter, and all four men will operate the world's smallest post office, open 24 hours a day. This is a very isolated place. The mail is dropped on the island from the low flying aircraft and picked up by a helicopter. Weather permitting, the mail is picked up biweekly or bimonthly. In the mid winter there is no pickup.

The principal operator, Geir, JW5VAA operated also as LA5VAA, JX5VAA, LA5VAA/OY and LB8GA, was born in 1959 and trained as radio operator in the Army Radio Communications School. He was licensed in February 1980 as LB8GA. After he passed his army operator exams he was issued class A license LA5VAA. He was very active from the army club station LA2J.

He applied for job at Jan Mayen Island where he finally arrived in April 1981, where he stayed for one year. After the vacation at his home QTH in Vestnes, he went to Bear Island in June 1982 for a year. In 1984 he went for a short trip to Faroe Islands for two months. Then in June he went to Bear Island for 6 weeks and then to Hopen Island for one year. In september of 1986 he went to Hopen again for his 5th arctic winter.

Geir's activity has been following the sunspots. From Jan Mayen he made about 8500 QSOs, from Bear Isl. about 5300, 1500 from Hopen Isl in 1984/85 and little more than 1000 from Faroe Isl. During the last winter he wasn't much active but he was keen broadcast listener. He found propagation to be very good on medium and low wave bands and has taped many programs and sent reports to broadcasting stations all over the world. This brought him a lot of QSL cards and souvenirs.

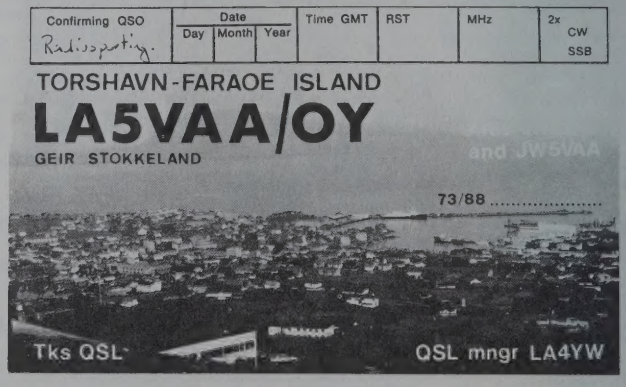
To be happy according to Geir, one does not need a lot of people around, eight hour job and a TV in the evening. He hates nine - to - five jobs, but loves low temperature, polar bears and dark winters in the North

Last summer, the GeoTeam Company started to build a MF navigation station for oil exploration on the Iversen mountain in the southern part of Hopen Island. It is about 10 kilometers from Hopen Radio and should not cause any interference. Geir is not too happy about this, he wants the peace and quiet and says that world has enough oil so far.

So this is the description of the Hopen Island with the world's smallest post office and where the half of population are hams since 1984. My thanks to Geir for all the assistance with information and photos. I promised to send the best wishes for 1987 to readers of RADIOSPORTING and to tell you that Hopen Island is the coziest place in the world. Don't you think so?

(LA4YW)

Chief operator himself - Geir, JW5VAA



A view of downtown Torshavn on Faroe Islands

TOP BAND DXing FROM THE FAR EAST

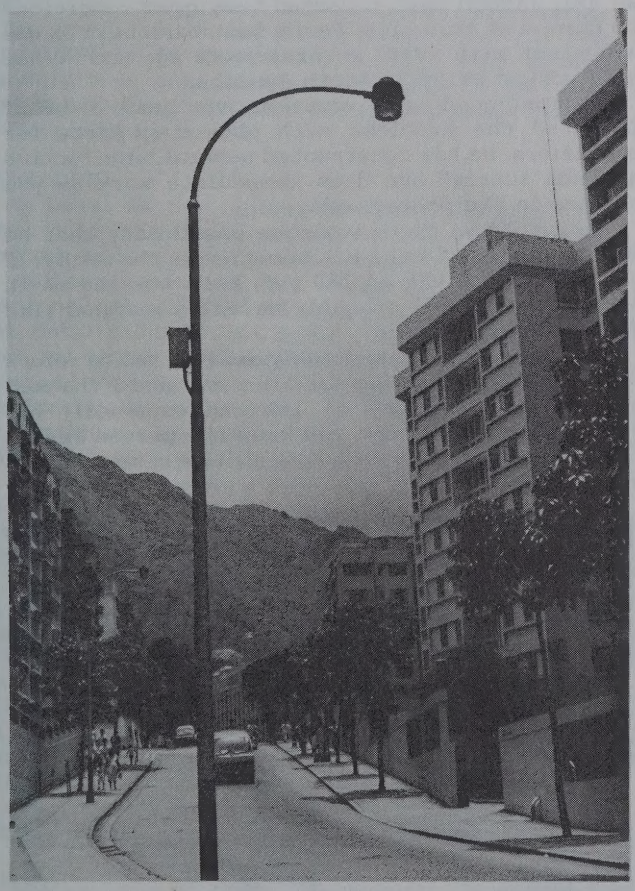
PART 2 - HONG KONG

Bill Tippett, WØZV

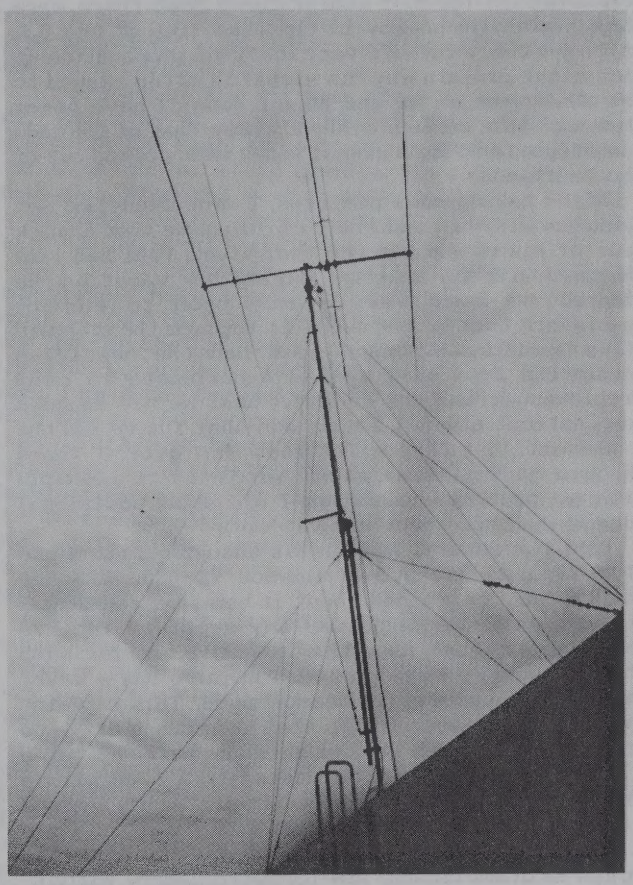
Hong Kong is one of those exotic cities of the world that has always intrigued me. Visions of smugglers, Suzy Wong and VS6DO's signal on Top Band instantly come to mind!

I wrote Paul well ahead of my trip to let him know the dates of my business trip to Hong Kong in the hopes that we could get together sometime. My hopes fell when John, WØUN brought word that Paul would be leaving for his annual vacation in the U.K. the very day I had hoped to visit him. John had taken several pictures of Paul's antennas for me since they would be taken down by the time I would be there. John did relay that Paul felt he might have time for lunch even though he planned to leave that evening.

After arriving in Hong Kong, I called Paul and confirmed our meeting for Saturday lunch. Paul gave me the address and I thought it was really appropriate that a Top Bander lived on Broadcast Drive! Although we agreed to meet at 12:30, I left a little early so I could take a few pictures of Paul's location from the surrounding neighborhood.

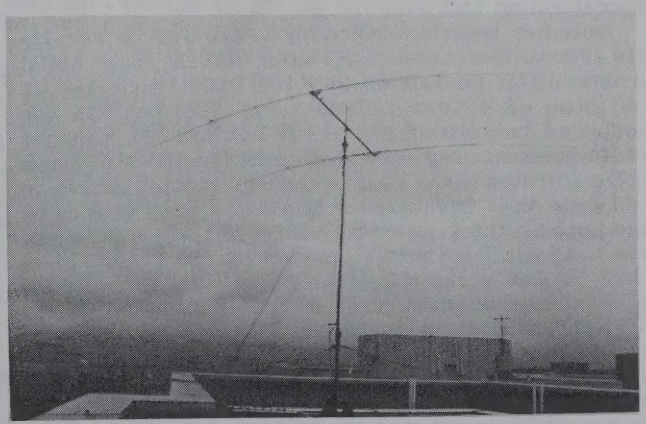


VS6DO location looking Northeast toward USA. Bare 55 ft. mast visible at upper right normally supports tribander and 80/160 meter Inverted Vees on top of 8 story apartment building.



Hy-Gain Explorer beam with 80/160 Inverted Vees barely visible below on a tiltable 55 ft mast.

As you can see in the photographs, Paul lives in an area of dense high-rise apartments. In fact, almost all of Hong Kong is incredibly densely populated and



2 element 40 m KLM beam on 35 ft mast.

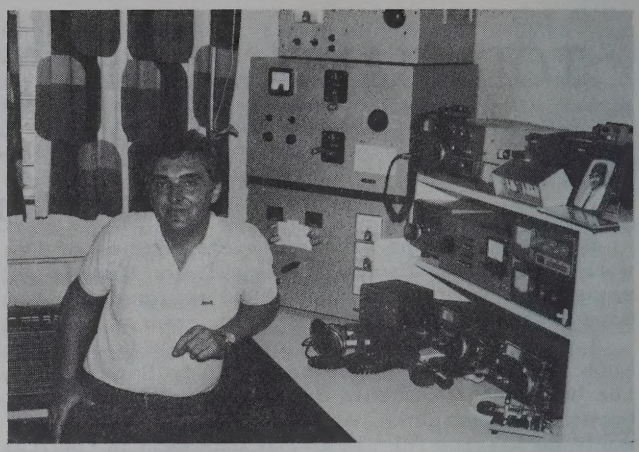
I was very curious to see how Paul put out such a good signal on all bands, especially 160. Paul lives on the top floor of an 8 story apartment building and has a couple of masts mounted on the roof. He has a Hy-Gain Explorer Tribander on top of a 55 foot mast with inverted vees for 80 and 160 underneath the Yagi. He also has a KLM 2 element 40 on another shorter mast, about 35 feet high. Incidentally, the ends of the inverted vees go to two adjacent apartment buildings and this is how Paul achieves an inverted vee on 160 that is approximately 150 feet above ground level. I also noticed that there were some high hills nearby in the direction of the U.S. which probably cut off very low angle propagation. It also might explain why his signal is often skewed to the Southwest on 40 and 80 (although I have never observed this on 160, other stations East of Colorado have reported Paul's signal sometimes coming out of the Southwest).

After taking some pictures, I went inside and met Paul, his wife Kin and their children. We took a quick tour of his shack and the roof where Paul had laid the antennas for storage during his vacation. He showed me some very sturdy boom to element insulators that he had built to replace the standard KLM insulators. Although Paul had the new Lexan insulators from KLM, he had experienced so many problems (who didn't? de 3BMV) that he had decided to construct his own. I must add that I have had the 3 element KLM 40 up 148 feet for over 3 years through many of our Chinook winds (80 to 140 mph) with no problems (although I did some additional ruggedizing before putting it up).

Paul has several rigs in his shack including the ICOM 751 and 740 and a Kenwood TS-830. He likes the 751 but complained about it being temperamental at times. He did not have any separate receive antennas and just uses the inverted vee for both transmit and receive on 160. Paul also has a keyer that he can program in beacon mode. This explains the long and repeated CQ's that sometimes drive us crazy on 80 and 160! He just sets the keyer up, takes a break and comes back to listen to a huge pileup when he stops the keyer! Incidentally, he has renewed his liking for CW over the past few years and I can attest to the fact that his copying ability has improved dramatically (CW forever!!...sorry Willy!).

After the tour, we left for the Hong Kong Cricket Club, a traditional British club nearby. Over lunch, Paul gave me a little background on himself and his observations on Top Band DXing. He is 40 years old and now works for the Hong Kong governmental regulatory arm for securities trading. Paul was first licensed in the U.K. in 1963 and then in Hong Kong in 1967. He is the only VS6 authorized for SSB operation on 160.

Paul has been on 160 many years and he recalls his first U.S. QSO was with W6VSS (now K6UA) around 1971. He had worked 102 DXCC countries at the time of my visit (late June 1986) but has not bothered to collect QSL's. I'll bet his QSL manager K4CIA has probably received cards from most of those 102 countries since Paul is the only station active on 160 from VS6! Paul was not sure how many states he had but, at the time of my visit, AA1K/3 in Delaware was his best East Coast contact. Since then, I know that he has worked several 1's and 2's including a spectacular contact with KA1PE in Maine! The VS6 beam heading from Maine is 356 degrees which is right through the magnetic North Pole. Interestingly, John, KA1PE told me Paul was coming in direct and not skewed over the South Pacific. Paul also told me he has 280 countries worked on 80 meters (but that's HF to Top Band addicts).



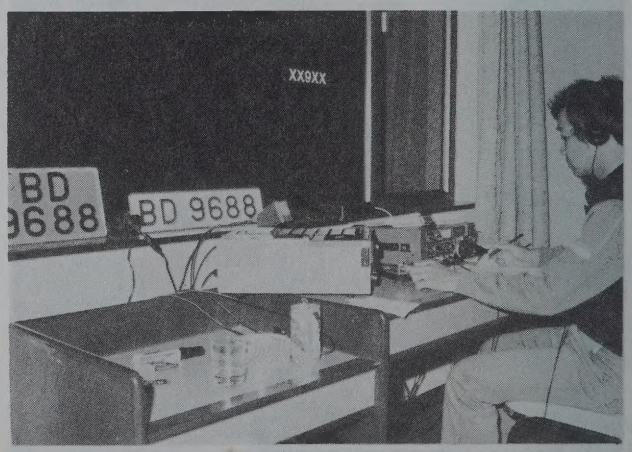
Paul Bailey, VS6DO with his equipment and home-brew "active antenna tuners" in background.

As was the case in Japan, LORAN makes 1830-1870 kHz unusable in Hong Kong. You will usually find Paul either around 1823-1825 transceive or else in the JA window around 1909-1910 listening down (especially in contests). He is usually on the air around 1200-1400 UTC for the U.S. or around 2300 UTC for Europe. He says the peak winter conditions to Europe are around 1900 UTC but he is seldom on then since it is 3 AM local time. However, guest operators such as Aki, JA5DQH have reported very good conditions to Europe at this time. Paul's best Caribbean DX was a contact with KV4FZ several years ago and he has only worked PY1RO in South America.

We continued our discussion over lunch and Paul lamented the problems with obtaining parts for amplifiers. He has constructed several large "active antenna tuners" and does immaculate work as you can see in the photograph.

Paul told me there was some possibility that he might emigrate to the U.S. sometime in the future. If you don't have VS6 on 160 yet, keep working on it because there will probably never be a signal like VS6DO once he leaves.

Lunch ended all too quickly and Paul had to return home to finish packing for his vacation. I thanked him for his activity on 160 and especially his hospitality. Now I hope you know the person behind that big signal from Hong Kong a little better. Thanks again Paul! (WØZV)



Aki, JA5DQH (also NN7S) operating XX9XX in Macau from the Hotel President. (Tnx N2ATT)

MY FIRST DAYS ON TOP BAND

John Devoldere, ON4UN

Finally we were going to get top band! Rumors to that respect had been circulating since the fall of 1985, and that's when I decided to add 160 meters to my vertical antenna. It meant rebuilding the antenna tuner by adding a few more relays, coils and capacitors. In order to reduce possible losses in the network to a minimum I decided to first add a linear loading section to the tower, which by itself electrically lengthens the tower from approximately 3/16 wavelength to 1/4 wavelength. At the same time I decided to further improve the radial system by adding more and longer radials. Last summer I dug in about 50 more, between 70 and 200 ft. long. During winter time I also roll out 8 strips of 2 ft. wide chicken wire, each about 50 ft. long. In some directions I am limited in radial length as the property line is too close to the antenna base (60 ft.). The radials in that sector are terminated in small aluminum stakes, where the copper wire is attached with stainless steel hardware. Now that the farmer is off the fields for a few months, I extend the radials by connecting wires to these stakes and laying them on the fields. This way I added another 25 radials, each at least 300 ft. long. That was the best I could do. From the measured radiation resistance of the vertical it looks like I achieve about 75% overall efficiency, which is acceptable. The 2:1 SWR bandwidth is 75 KHz, which is more than enough (bandwidth is only 20 KHz in Belgium). In the last week before the countdown I also lengthened some of my Beverage antennas.

COUNTDOWN

As usual we are celebrating New Year's eve at home, just the three of us. My XYL Frida cooks lobsters and we love it. In Belgium it is the custom to exchange gifts on New Years eve but usually everyone will get too curious and will not be able to wait until midnight. So, before the zero countdown time, all the gifts are exchanged, which includes a top-band license for me! Somehow I manage to get the family's OK to go into the shack at 3 minutes after midnight on January 1st. I quickly tune 1830-1850 and hear my good friend Ghis, ON5NT calling CQ. He becomes my very first 160 meter QSO. After that Ghis calls QRZ and has a hugh pile-up of Europeans calling him. I decide to return to the family and will try to be back early in the morning.

After only a few hours of sleep, I am back in the shack at 0355 GMT. I quickly tune the band, and it sounds very quiet. Only very few DX-signals. So I pick a clear frequency (approx. 1832.5) and call CQ (not DX yet, don't want to sound too presumptuous). OK1DWJ is 599 plus 30, and we make a short QSO and then it all starts. KA1PE, John, in Maine is my fist US contact. We exchange a 599. Next is Jack, VE1ZZ. Boy is he loud! One of my first USA contacts is with my good friend K4PI, who has the same address as AA4OI (my US call)... Outstanding signals are also coming from K1MM, K1MEM, KC1Q, K1ST, K1VR and N1CPC, who decided to have a new year's party at K1MEM's place to be able to work me in my first hour of operation on 160.

After a while I am forced to operate split in order to be able to sort out the calls, so I decide to QSX 1819, which works out very well. In 4 hours 136 QSO's are made, of which 125 outside of Europe, including all US call areas except W7. The best QSO undoubtedly was with KL7Y, who gives me 579 and who is a genuine 579 himself (0712 GMT). I couldn't have dreamt of a better first day. Conditions must have been very good. After sunrise (07:40 GMT) the band dies very rapidly.

I get back on the air just after my sunset (1600 GMT) and stay on until 2200 GMT. The propagation is poor to the East, and I do not hear a single JA in the JA window at their sunrise. The UA9's are very weak also. From the west it looks better as VE1BVL is already coming through at 2020 GMT. One hour later the first W1's are heard and worked.

Day #2: I reappear on 1832 at 0500 GMT, and immediately have a pile-up going which forces me again to QSX 1819 KHz. Conditions are much better now than on the 1st and after 20 minutes I have the pleasant surprise to work Bob, N7UA with 579 both ways. I have the feeling that it must be possible to work Bob on 160 meter even ont he long path! From then on other stations form the west coast follow, including the states of California, Oregon, Arizona, Washington, as well as Colorado and South Dakota, etc. On the evening of the second day conditions are poor again to the east. No Asiatic stations heard. EA8QO and VP9BO are logged as new ones before I quit around 2130.

Day #3: I start listening at 0500 and the band sounds dead. So I decide to call CQ and immediately I have a pile-up. QSK again to 1819. The Band is very good to W9 land. WØ's are coming in too, as far West as Colorado (WØZV, KØRF). One real west-coaster only this morning - N7CKD. After working Dennis I decide to QRZ 6/7 only. And there was Dan KL7Y again with a 579 signal. The band must be good after all. Minutes later I hear KH6CC calling me but I cannot pull him through. Then SM7BIC calls me to go to 1834.8 KHz and I get him. Thanks, Len, for the help! KH6CC also gave me my 6th continent for my WAC. Pedro, NP4A is another new one for me. Later after the band starts fading, I work a few European new countries, including HBØ/DJ9YY. 1910 is the time, 3799 is the frequency, and VE8HL (zone 2) is 58 on SSB (2:10 PM). I go with Larry to 160 and he is copying me 519 but no trace of him here. We will try again around midnight his time.

Day #4: I decide to get up even earlier today. At 0300 GMT I am on the band which sounds dead. A CQ brings it to life. But conditions are nothing like the previous days. WØZV and KØRF from Colorado are outstanding as usual. I have to work Europeans in between stateside stations because I don't get enough takers. Good too, because it brings me a number of new countries: UO5, UG6, UL7, SV and UA1 (FJL) plus VP2VI. KL7H is peaking a solid 599 with slow and deep QSB, and is working Europe for hours on end. What a strange band! Signals start fading about 30 minutes before sunrise, but there is a short selective peak to Texas just at my sunrise.

Jan. 5th: I fire up at 0440. At 0520 the bands pop open tot he west coast: K7IDX, N7UA, KA6W, K6ANP and W7GN are worked in a matter of minutes, as well as W6RR and W7VIC one hour later. In between I work my second Franz Jozef land station, UA1OT.

Jan. 6th: I get used raising early. At 0458 I work

KH6CC for the second time this week. Haven't heard a KH6 for years on 80, and here you can work it almost every day!? More thrills: at 11 AM his time, KL7V is 599 as well. In between I work Dan with 59 on SSB... Is this really 160 meters?

Jan. 7th: Around 0600 GMT I can hear lot's of 6's and 7's calling me but I can only pull through W7TVF (Nevada, state # 45) and VE7IG.

Jan. 8th: I thought I had a W7 calling me at 0500 GMT, but it turns out to be LU7XP. That's the extreme southern tip of Argentina! And I get 579. What's the next surprise? Half an hour later KH6XX breaks through the US pileup and gives me my 3rd QSO with him in one week. Minutes later my old friend George, W7MB is a solid 599, but he is the only West Coast station making it.

Jan. 9th: Morning conditions are average. The furthest West I get is KYØA in Colorado. EA6NB is country #51 on top band. In the evening I try cross band (160/80) with Arie, VK2AVA (1850 GMT) and he hears me 559, but he has problems with RF feedback and cannot transmit on 160. Arie promises to fix things tomorrow. Later in the evening I work UI8DAN, UD6DN, HAØMM and KP2J (also K2BMI/KP2) for countries nrs 52 through 55.

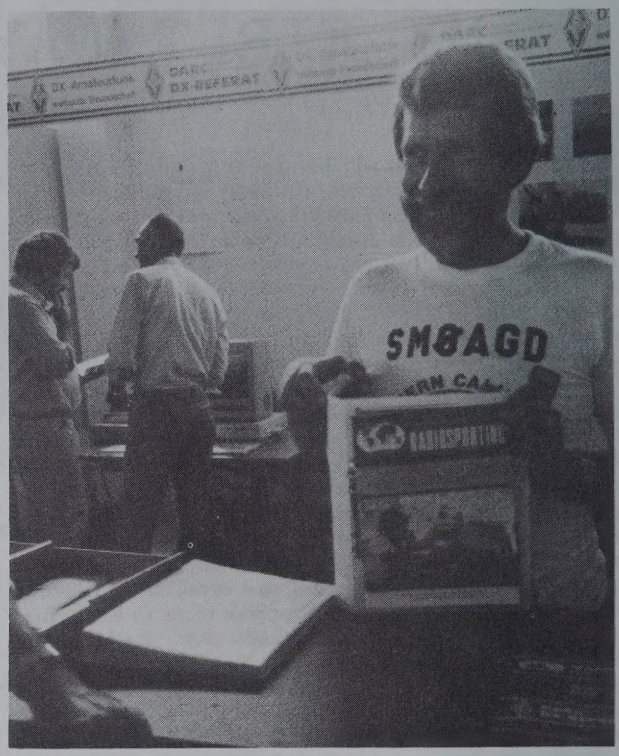
Jan. 10: It's Saturday, and I really need some extra sleep. No 160 meter activity this morning. Boy, was it nice sleeping in. Ghis, ON5NT tells me later that i missed excellent conditions!... In the afternoon my good friend Ben calls me. He found out that some people have problems copying OSN beacon when I come too close to 1831. I guess I have to stay away from 1831 and will do so from now on (no transmitting below 1833). I try again with VK2AVA at his sunrise, but no conditions today. Will try again tomorrow.

Jan. 11: Got up very early but conditions only fair I think. I have to switch to SSB (don't like it) to work a few new ones: HKØHEU, TI2CC, TI9W and XE1VIC (nrs 56 through 59). XE1VIC is my 19th zone. I look for W5YU on 80 m to bring him to top band but I guess he must be calling a square dance tonight as I cannot find him.

Summing up: over 1000 QSOs with stations in 59 countries, 19 zones and 45 states, in my first 11 days of operating on top band. Still need Idaho, N. Dakota, Utah, Wyoming and New Mexico (will be Otto, W5YU).

I have noticed over those first days that the Beverages show less directivity than on 80 m, but that was to be expected. I also noticed that often there is a very deep and very slow (periods up to many seconds) QSB on real long haul signals. I've never noticed this on 80 m. It also looks like one can work across the magnetic North Pole easier than on 80 m.

The frequency assignment of 1830-1850 is still a little problematic here. 1830 and 1831 are always occupied by DHJ and OSN beacons. In order not to disturb OSN it is suggested to stay away at least 1 or preferably 2 kHz. OSN is often 60 dB over S9 here, and it's clicks are often spreading 2 kHz on both sides. 1835 is the single channel German SSB frequency, and it is almost always busy. This means it covers 1832.5 to 1835. There goes most of the bottom 5 kHz of our allocation. On 1834 (USB) and 1836 is a ship to shore radio service (Bristol Channel) which is on very often. Starting then at 1840 we have mostly SSB (according to the IARU Region I bandplan), and that is enough space only to accommodate 3 or 4 channels. (ON4UN)



Would you buy an used car or RADIOSPORTING magzine from this man? If you are a ham, most definitely! You must have worked this famous DXpeditioner, Erik Sjolund, SMØAGD, Member DX Hall of Fame, also known as SM3AGD, DJØEF, SM2AGD/CEØ, VP8NI, HKØAB, 3C1AGD, SMØAGD/TA, A2CGD, 7P8AG, HKØAA, SMØAGD/S2, CR3AGD, SMØAGD/XW8, J5AG, A22GD, SMØAGD/3D6, 9X5LE, ZK1AF, 3D2DX, C21NI, T3ØCB, T2AGD, FWØAG, SMØAGD/KH8, ZM7AG, T31AE, SMØAGD/KH1, T32AJ, SMØAGD/SV2, SMØAGD/3B8, ... Erik, together with Franz Langner, DJ9ZB (another DX Hall of Famer) were manning RADIOSPORTING booth at the Ham Radio convention in Friedrichshafen/Lake Constance. This is the "Dayton" of Europe with exhibits, fox hunt, forums and flea market. If you are planning trip to Europe this summer, make sure you attend this Europe's largest gathering of hams this year.

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DUPING REVISITED

SINGLE-KEYSTROKE COMMAND MENU

Pete Smith, N4ZR

This is the second in a series of articles written especially for RADIOSPORTING on computer programming for contesters. The focus is on modules from which contesters can build their own contest programs.

First, a typographical note - in the first article (Dec.1986 issue) of this series, there were several typographical errors (my fault) in the program listing.

Line 130 should read:
```
130 FOR J=1 TO LEN(HC$):H = H + ASC(MID$(HC$,J))
```

Line 170 should read:
```
170 IF A$(H) = HC$ THEN PRINT "DUPE":GOTO 190
```

Finally, line 180 should read:
```
180 H = H + 1: GOTO 150
```

The previous article in this series was written in July before Radiosporting moved to its new U.S. QTH. In the meantime, as if to demonstrate that you can never afford to stand still, I became aware that under very high QSO inputs, the basic hashing algorithm then used in the Contester II programs displayed a premature degradation in response time. What tipped me off was an excellent mathematical article in June 1986 QEX.

Fundamentally, what happens is that the ASCII-sum algorithm adds the ASCII values of all the characters in the callsign. The advantage is that any callsign format is acceptable. The disadvantage is that the distribution of callsigns across the entire possible range of calls is very uneven. AAØA is the lowest possibility, but there can be only one call-sign totalling such a low ASCII sum. The same goes for ZZ9ZZZ. In between, the potential distribution depends on how many calls add up to the same total.

One solution lies in the fact that callsigns may be 4, 5, or 6 characters long (assuming portable suffixes are ignored for duping purposes). Given this, there will be three "clogs" in a typical duping array. But you can spread the load more broadly, and improve duping performance. One way is to tell the computer, for example, "take all callsigns with less than five letters, separate all those that end with a letter earlier than "N" in the alphabet, compute the ASCII sum of their characters and add an offset number to shift the peak of their distribution to a less crowded area in the duping array." In basic, this would read:

```
IF LEN(HC$) < 5 AND RIGHT$(HC$,1) < "N" THEN H
(the ASCII sum) = H + (offset value)
```

By inspection, you can locate an area in the array where a peak "clog" occurs, and a matching area where callsigns are few and far between. Compute the offset value to be the difference between the two.

A practical program listing follows, elaborating on the one given in the last article, but with room for at least 2000 callsigns:

```
50 DIM A$(2400)
100 FOR J = 0 TO 2400: A$(J)="*": NEXT J
110 INPUT "HIS CALL";HC$
120 H=0
130 FOR J = 1 TO LEN(HC$): H=H+ASC(MID$(HC$,J))
140 NEXT J
145 IF LEN(HC$)<5THEN H=(H-243)*8:IF
            RIGHT$(HC$,1)>"N" THEN H=H+1300
150 IF LEN(HC$)=5THEN H=(H-308)*20:IF
            RIGHT$(HC$,1)>"N" THEN H=H+1100
155 IF LEN(HC$)>5THEN H=(H-250)*10:IF
            RIGHT$(HC$,1)>"N " THEN H=H-700
160 H=H-INT(H/2400)*2400
165 IF A$(H) = "*" THEN PRINT "NO DUPE":GOTO 190
170 IF A$(H) =HC$ THEN PRINT "DUPE": GOTO 190
180 H=H+1: GOTO 160
190 A$(H) = HC$: GOTO 110
```

The performance improvement is well worthwhile. Testing with a random-call generator that produces 4, 5 and 6-letter calls in approximately the proportions found in the last several CQ WW contests yielded the following results.

QSO number	Average duping time
100-200	0.11 seconds
500-600	0.2 seconds
1000-1100	0.28 seconds
1700-1800	0.87 seconds
1900-2000	0.98 seconds

* * * * * * * * *

A SINGLE-KEYSTROKE COMMAND INTERFACE:

A single-keystroke command interface is essential to using a computer to operate contests in real time. If you have to type any sort of involved command and then hit "RETURN", you will type thousands of extra keystrokes over the course of a contest. Your chances of error increase rapidly, too.

A single-keystroke command interface is easy to write. First, tell the computer to receive a single keystroke and process it immediately. For the Commodore, the instruction looks like:

```
10 GET A$: IF A$ = ""THEN 10
```

The second part of the line takes care of what happens if your machine processes a GET and finds nothing there. Normally, it would just go on to the next instruction. To make it wait, you need to build in a loop to keep "GETting" until a character is entered.

In some other BASICs, the equivalent line is:

```
10 A$ = INKEY$: IF A$ = "" THEN 10
```

Once the program has assigned a value to A$, the next step is to decode that value. The standard form of that program line is:

```
30 IF A$ = "(WHATEVER LETTER)" THEN GOSUB XXX
```

This way, the computer will execute a subroutine whenever it receives the designated character from the keyboard. It could be a CW transmission, if you have an integral Morse routine in your program, or any program function you want. The Contester II, for example, has room for fifteen CW messages, and

also "understands" all the function keys in order to execute other program functions like logging, changing bands, going to "keyboard" mode, etc.

Your computer may require you to assign ASCII values to the function keys -- the Commodore already has these assigned, and allows you to enter them in the program as graphic characters. Others require that you use the form "IF A$ = CHR$(137)..." where CHR$(137) simply means "the character represented by ASCII code 137, which is the character sent by [F2]" (you will find a listing of ASCII code values corresponding to each key on your keyboard somewhere in your computer or BASIC documentation).

With so many possible options, you will need an on-screen menu to keep them all straight. A few additional hints:

- Provide an easy way to get from your command menu to the duping screen (where you input the other station's call-sign) and back again. One way is to let A$ = CHR$(13), which is the [RETURN] key. Then, at the duping screen, you can change your mind by a line like if HC$ = "" THEN (return to menu). Set up in this way, one [RETURN] takes you to the duping screen, while another (with no call entered) takes you back to the menu.

- Select letters for your commands that help you remember what they will send - A for "answer station" and X for "exchange only" are good examples. Try to arrange your menu so that it follows logical on-the-air sequences.

- Where it is important to avoid hitting a key by accident,especially if speed is secondary, choose a character that is upper-case, requiring you also to press the shift key at the same time.

Next: Garbage collection - what it is and how to deal with it.

(N4ZR)

The author, Pete Smith, N4ZR, is a contester and the founder of Winner's Edge Software, publisher of real-time integrated contest software. The program examples described in these articles are drawn from Winner's Edge's Contester II software. They are written in Commodore BASIC 2.0, and may require some translation for use with APPLE and IBM BASICS.

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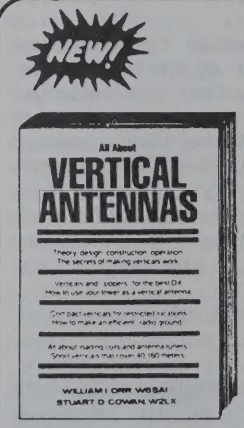

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by Bill Orr, W6SAI and Stu Cowan, W2LX

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SUPER DUPER

FOR POOR STUDENT'S COMPUTER

Ben Buettner, DL6RAI

After having read through N4ZR's article in the Dec. 87 issue of RADIOSPORTING, I could not resist to make a few comments.

First of all, I must admit that I am a poor student with no money. For that reason I have not got one of those ATARIs or IBM compatible machines. I am using an AMSTRAD 64 kB computer with a Z-80 microprocessor. With a computer like that the number of necessary operations in any algorithm does play a significant role. The built in "Locomotive BASIC" needs about 3.9 seconds to compare one string with another 1000. And that's not even bad for a BASIC interpreter running on a 8 bit microprocessor. Anyhow, if you look at your ATARI you will laugh at me, because the whole thing on your computer is a matter of milliseconds.

What I want to say is that with all those 16/32/64/128 bit processors it has no real influence if you search through 1000 or 50 calls. You will not even realize the difference. But if you are one of those who do not spend their whole income on computers (but rather on antennas and amplifiers) you possibly will have something like C64 or Apple. In this case you have to find a way to cut down the number of comparative operations in your dupe checking routine. Otherwise, don't care about it. N4ZR introduced the so called "hash table" in his dupe checking program. The advantage is clear: It's really simple and universal. The ASCII values of all letters in a callsign are counted together (H) and this number is used as starting value for the search in the string array, where the call will finally be placed (A$). The routine works nicely in the beginning. A$(H) is empty ("*") in most cases. But the callsigns tend to cumulate around a certain field number (about 380, if H is not altered).

Not only DL6RAI and DL7RAH produce the same value, but also UA3ABV, OK3CAQ and HA8KQE set H to 418. All these calls will be stored in field 418 or the next empty above. After a while all fields from 300 to 500 will be full and there is no hashing any more. The program searches through the array serially from 300 to 500, which means 200 comparisons.

Of course you could spread the array, but there will always be a bunch of calls around the center of the array, whilst the low and the high end are kept free for exotic calls.

In the end - I assume that you are an avid and sharp contester - you got a few hundred calls in a row. If H is small, the program starts testing the call signs at the low end of the list and will have to go through almost all calls.

The algorithm I have been using for a number of years now looks like this:

```
10 Z=1500
20 DIM A$(Z)
30 FOR I=0 TO Z:A$(I)="*":NEXT I
40 INPUT"CALL: ",C$
50 C=INT((ASC(RIGHT$(C$,1))-65)*Z/26)
60 IF A$(C)=C$ THEN PRINT"DUPE":GOTO 40
70 IF A$(C)="*" THEN PRINT"OK":A$(C)=C$:GOTO 40
80 C=C+1
90 GOTO 60
```

The ASCII value minus 65 of the last letter in the callsign is multiplied by a factor to spread out the calls over the whole "sheet." VE3BMV for example is assigned the value 1211 and the list is checked from A$(1211) onwards to the next empty place. So only the "V-block" is tested, nothing else. That means about 40 comparisons per 1000 calls. Sometimes there are more than 40 to check, especially in the A-block, since awful lot of calls seem to end in the letter A.

I am using my computer for checking purposes after the contest only (so don't blame me if I call you twice in the contest). There is no need to work with calls like DL6FBL/VP9. I just type DL6FBL hoping that FBL did not change his QTH during the contest. Otherwise the program derives "9" as the last letter in the call and C gets a negative value. This results in an error as there was no field defined with a negative index. This is not necessary because such exceptions could easily be handled with an error trap line (e.g. 55 IF C<0 THEN C=C+1000).

For multi band operation I use a large array which is divided into subsections by simply adding a "start address" to the value of C. The 160 m list starts at field Nr. Ø, 80 m starts at field Nr. 500, 40 at 1500 and so on.

Special attention should be paid to the dimensioning of the array. The A-block tends to have about twice the number of entries as would be expected statistically. So if you figure out about 1000 calls to be entered, about 80 of them will be ending in A.

On the other hand your computer will eat up 3 bytes of memory space for each defined string variable.This is because the interpreter reserves memory for the string descriptor of each variable. If you got 30 kB of available memory space, you can-theoretically - put in about 3500 calls. Keep in mind, however, to make the separation between the single blocks wide enough to avoid a mixing up of the different blocks. This would be of no harm but it costs time.

With some computers it is not necessary to fill the array with a sign ("*") to show an empty field when initializing the program. My computer allows the value "" (nothing, nil, nulla, zip) to be assigned. Try it, it might save you a kilobyte.

Be careful about deleting a call out of the middle of the list. If you clear that field, be sure to fill it with a dummy string ("-"). Otherwise you might detect that your program is not working properly once every while. The reason being that the program "thinks" it has reached the end of the list, although if is right in the middle, if this field is made accessible again. The probability that such error occurs is pretty small, however.

Avoid things like C$=A$ ... C$=B$ ... C$=D$ ... etc. Each time you assign a new value to a string variable (this is true also for the INPUT-line!), the old value will be kept in memory although it is no longer accessible nor useful. There will be no problem until your memory is full. What follows then is the garbage collection which will put your computer in a state of unconsciousness for about 15 minutes. This is why some sorting routines (like Bubble Sort) need a long time.

If you know your computer really well you can get around it by using the string descriptors. That means you are no longer swapping the contents of variables but rather their descriptors. Another way is to initiate a garbage collection after each new entry by using the statement X=FRE(""). Since there won't be so much to throw away then, it will not last long.

(DL6RAI)

KENWOOD TS-940S MODIFICATION
RETAIN QUIET QSK WITHOUT AMPLIFIER

Rune Wande, SMØCOP

Kenwood TS-940S transceiver has a quiet and comfortable QSK mode of CW operation. However, when the 7 pin REMOTE connector is inserted in the REMOTE socket, the relay that controls the external amplifier transmit/receive circuit is activated and is a source of annoying clicking, when not needed. If the external amplifier is not in use (turned off) this clicking is still there, until the plug is removed from the socket. If one wishes to disable the relay, when amplifier is not in use, the plug must be removed. There is a modification that can make this unnecessary, thanks to Borge, SMØEBP, who brought up the idea for this modification:

A logical and convenient way to control the relay for an external amplifier is through the FULL/SEMI button on the front panel of TS-940S. The following modification enables the operator to switch the relay on and off by pushing and releasing the FULL/SEMI button. In position SEMI the relay is operating and an external linear amplifier can be controlled by that relay. In position FULL the relay does not work and the operation without linear is a quiet QSK-CW. This modification is easy to do and will not affect the performance of the rig.

Step by step procedure:

1. Locate the cable coming from the relay. It can be found near the REMOTE connector on the rear panel.

2. Unsolder cable coming from the relay at the point where it is soldered to the REMOTE connector.

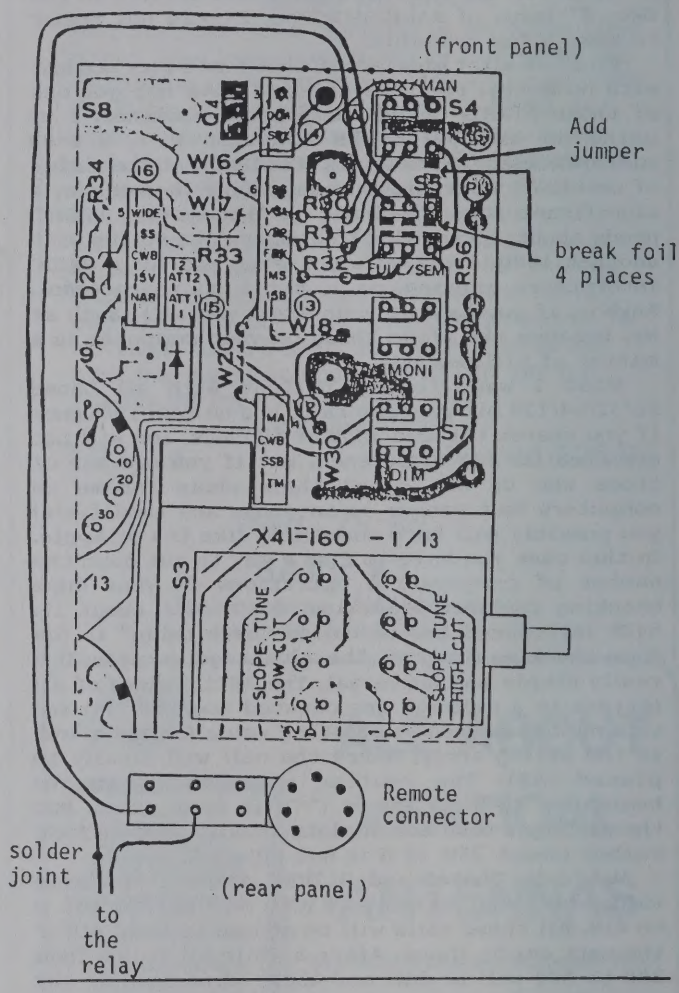
3. Add a two lead cable and route it from the rear panel REMOTE connector to the front panel FULL/SEMI switch S5. Solder one cable lead to the joint (REMOTE connector) where you unsoldered the relay cable. The second lead should be soldered to the end of the wire coming from the relay (previously unsoldered from the REMOTE connector).

4. Loosen the front panel and carefully tilt it forward. Cut the foil in the area of FULL/SEMI switch S5 in three places and cut the jumper between switch S5 and switch S4. Use a sharp knife or high speed drill or cutting bit.

5. Add a jumper between S5 and S4 as shown on the drawing. Solder the two lead cable coming from the rear panel (REMOTE switch) to the switch S5 as shown on the drawing.

6. Carefully put the front panel back in its place and the modification is completed.

Now the relay is on in position SEMI, off in position FULL, which gives a quiet QSK-CW operation, even when the remote plug is connected. Of course, if the plug is not connected, the function of the FULL/SEMI button is as before the modification. Those operators who frequently switch between barefoot and kilowatt "mode" will find this feature very convenient. (SMØCOP)

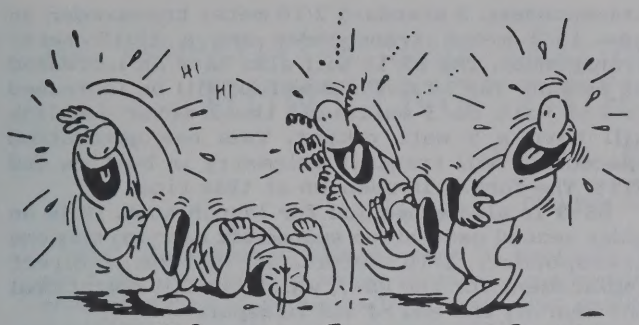


TS-940S LOW SSB TALK POWER IMPROVEMENT

Don Taylor

This modification is applicable to units from S/N 601XXXX. Kenwood added two capacitors (C182 and C183) to the control unit board in order to prevent noise pickup. This change has modified the characteristics of the ALC circuit, resulting in excessive ALC limiting action in SSB mode. For this reason, the peak output power in SSB mode could be lower than in CW mode.

The cure for this problem is to replace those two capacitors (0.01 uF/50V) with different ones. The recommended replacement value is 0.0022 uF/50V. C182 and C183 are soldered on the foil side of the Control Unit board with one end soldered to the base of Q37 transistor, the other ends going to ground and -12V resp. (International Radio)



radio funnies

Mike Crabtree, ABØX

COMPUTERS CAN BE HAZARDOUS TO YOUR HEALTH

It had been several weeks since I had heard from Elmer, WDØSKI, or Harvey, NØLID, so I wasn't too surprised when the doorbell rang last night and Harvey greeted me with a grim, depressed look on his face. As we walked downstairs to the shack I asked Harvey, "Where's your partner, the other half of the dynamic duo of DX?"

"Well," Harvey said sadly, "I guess you haven't heard about Elmer, then?" "No," I mumbled expecting almost anything. "He had an accident and is in Our Lady of Immaculate Reception Hospital (Obviously a hospital for DXers), Harvey explained. As we made ourselves comfortable in the shack, with Harvey at the desk in front of the rig and me in the broken wicker chair to the right, I probed for more details, "What kind of accident was it? Is he going to be OK?"

"Well, yes, he's out of intensive care and seems to be improving each day. Unfortunately, the accident was hobby related," Harvey explained. "Go on," I urged, with countless possibilities crossing my mind. Continuing he said, "It's a long story, but it all began several months ago when he started attending Wayne, WØFI's computer club. He really got interested in it and while you were away on vacation he broke down and bought the whole 9 yards! He got program for CW and teletype for his rig. In fact, he got every gadget you can buy for a computer. He even got disk brakes on it!"

"Uh, huh," I said thinking it was just a slip of the tongue.

"Yeah, Elmer said he almost bought an Osmond like Wayne's, but compromised on an Admiral," Harvey explained. "Boy, Donny and Marie must have really invested they money wisely to have their own computer company!"

"I think Wayne has an Osborne, not an Osmond," I said interrupting his story, "But what does this have to do with Elmer's accident?"

"I said it was a long story," Harvey retorted. "The problem started last Friday night when his new Admiral computer started forgetting instead of remembering. It was something like that, anyway. All those strange computer words really confuse me sometimes."

"I have never heard of an Admiral computer," I said interrupting again, "Could you possibly be thinking of a Commodore?" "Well, maybe so?" Harvey said, "I knew it had something to do with the Navy. I guess I just got the wrong rank." Totally frustrated, I bit my tongue and quietly said," and Elmer's accident?"

"oh, I'm coming to it," he said. "You see, Elmer thought maybe the program he bought from that golfer was causing the problem, but it wasn't." "Golfer!" I bit again, "What do you mean?" Harvey explained, "Elmer said he got the program from some hacker, so I just assumed he meant the guy was a poor golfer." Knowing it wasn't worth the trouble I just left it pass. "Go on," I said. "OK, well, when the program checked out alright," Harvey said, "Elmer got up to check behind his desk to make sure all his umbilical cords were connected between the different parts of the computer. But unfortunately. he tripped over the power cord and fell head first onto his desk. Apparently. he caught the corner of the desk right below his eye on his cheek bone and was knocked unconscious."

"Did he get a concussion?" I asked with real concern. "Yeah," Harvey said," and the Doctor said the blow caused a severe contusion to his interface. Elmer was out for nearly 24 hours!"

"Wow," I stammered not knowing whether to laugh or cry at this bizarre story. "Was there any permanent injury?"

"Yes, it looks like Elmer broke his Modem," Harvey explained grimly, "Luckily, he and Mary Lou don't want any more children! Boy, I sure didn't know computers could be so dangerous."

"Well, it could have been worse," I said, "but don't worry, it may not be much fun, but a guy can live without his Modem!" (ABØX)

MOST CREATIVE NAME AWARD

Every year ARRL Field Day is supposed to test the emergency preparedness of amateurs all around the country. To a great extend Field Day accomplishes this goal. Yet, for many amateurs the Field Day exercise offers even a greater challenge that tests their ingenuity and creative abilities. They are charged with the responsibility of coming up with a unique name for their group. Usually the more weird or perverted the name, the better their Field Day experience is for them. In fact, it's apparent that some groups seem to spend more time thinking up a name than they do preparing an emergency radio station.

Unfortunately, the ARRL does not have a special category or class of competition to recognize the creativeness of these groups. Therefore, the Kansas City DX Club has established an annual Award for the Most Creative Names for Field Day groups. Listed below are last year's winners, chosen from the official results of Field Day as published in the November 1986 issue of QST:

Austin Suds Suckers - N5GXB
Surreal McCoys QRP FD Group - NM2O
Bozo & the Lids - W9TG
Advarks Mangling Yuppies - VE3AMY
Ether Tweakers - KØDIA
Just Friends and Nerds - K8TE
Thunder, Mayhem and Science - K5TMS
DRONK Radio Network - NN6E
Orange Underwear FD Group - KA1OU
Big Unorganized Radio Project - K9TJ
The Parking Lot attendants - VE3CTV
Ten Bigger Better Novices - N9BBN
MOTHERS - K9UA
Earth-Hood Co Chigger Chasers - KB5CC
Just Another Club - VE4RFI
Secret Underground Radio Empire - NQ7Z
Entwistle's Pig Farm - N7CFO (ABØX)

SOVIET SATELLITES

Donald Dickerson, N9CUE

On February 19, 1986, the Soviet's launched new Space Station MIR. It is presently orbiting Earth in close proximity to the SALYUT 7 space station. Both stations are operational, in the same orbit and within three miles of each other. It is expected that both stations will be docked, forming an all new permanently manned complex.

ISKRA

What, you may ask, does this have to do with Amateur Radio? Plenty! After the MIR Complex is completed the Soviets are expected to reactivate their ISKRA Amateur Satellite Program. The next satellite in the iskra program scheduled for launch is ISKRA 4. It is expected to be launched by hand from the MIR space complex in much the same manner as the earlier ISKRA satellites were launched. A Cosmonaut , wearing a space suit , pushing the earlier satellites out an open port on the Salyut 7. The first three ISKRAs failed to reach a usable orbit and were destroyed on reentry only weeks after launch. The ISKRA satellites will operate on a 145 MHz uplink and a 432 MHz downlink. No time table is known at this time, but it will be some months before the MIR complex is completed. Five COSMOS modules will be added to the space station, each having a specialized purpose. It is not known if the SALYUT 7 will become a permanent part of the MIR complex.

Radio Moscow recently announced a joint French/Soviet flight to their MIR space complex is scheduled for sometimes in 1988. This may be an indication of the time table for completion of the MIR. 1988 is also the target year for the first Amateur Radio activity from the new Soviet space station. All of this activity may be scheduled to take place near the or during the celebration of the 70th year of the Bolshevik Revolution and the forming of the Communist Party Central Committee, scheduled for 1988.

SPUTNIK

The Soviets also plan to launch two new Radio Sputnik (RS) Amateur Radio Satellites in the fall of this year or early in 1987. The two spacecraft (RS-9 and RS-10) are very different from each other. RS-10 Which is scheduled for launch first is a new Third Generation spacecraft. It will carry three transponders. A standard 2/10 meter transponder, an new 15/2 meter transponder and a 15/10 meter transponder. The RS/10 will also have an increased RF output. The 10 meter downlink will be increased from 1 watt to 3 watts and the 2 meter downlink will have a 5 watt output. This new generation spacecraft will transmit telemetry in both cw and RTTY. The format is unknown at this time.

RS-9 is also scheduled for launch soon. It is an older second generation spacecraft carrying only one transponder, 2/10 meters. It will be a direct replacement for the RS-7, which is still operational but nearing the end of its lifespan.

RS-10 planned orbit is as follows: Polar orbit, Inclination 83 degrees, Altitude 850 miles, Period 105 minutes.

With the increase of Soviet Space activity, there will be a corresponding increase in radio traffic between the space stations and between the space stations and ground facilities. This means that the Soviet voice frequencies listed below may show increased activity. Many of the Soviet`s voice frequencies are not encrypted. It should be pointed out, however, that the Soviets have just put a new satellite system into operation which will, in a fashion similar to NASA`s TDRSS., carry most of the important radio communications and keep the MIR space complex in contacts with ground stations without interruption (another first for the Soviets as we lost our third TDRSS satellite when Challenger exploded).

So amateurs and SWLs alike will have some interesting listening to look forward to in the very near future, from Space no less.

SOVIET MANNED SPACE PROGRAM FREQUENCIES:

VOICE	TELEMETRY
143.825 MHz	992.000 MHz 165.000
143.145	192.000
142.417	20.008 19.995
121.625	19.640 18.008
121.750	18.060 15.008

Spacecraft name	Beacon MHz	Downlink MHz	Uplink MHz	Altitude km	Inclination Deg.	Period min.
RS-10	21.140 29.457 145.957 146.003	 29.460 - 29.500 145.960 -146.000 29.460 - 29.500	 21.269 - 21.300 21.260 - 21.300 145.960 -146.000	1,000	83	105
RS-9	29.453	29.410 - 29.450	145.910 -145.950			
RS-7	29.503	29.460 - 29.500	145.960 -146.000	1,600	82	119
RS-5	29.453	29.410 - 29.460	145.910 -145.960	1,600	82	119

THE COMPETITIVE SMALL STATION

HUNTING DURING THE CONTEST

Paula Franke, WB9TBU

CPO Box 873, Beecher, IL 60401

Tis' the season of the big-time DX contests. You sit back and listen as other stations run a seemingly endless string of contacts. In contests that include a consecutive serial number as part of the exchange the feeling is even worse: one hour into the contest you work someone who is already over 100 and you're still struggling to break 30. Ten hours into the contest and you're so far behind you don't even taste anyone else's dust. Frustrating, huh?

Check back on the results of the various contests and you'll notice something odd. The mega-scores belong to a very small percentage of the total entries. For the most part, the scores are relatively low. Also, considering the number of contacts necessary to compile a mega-score, many participants do not even take the time to send in an entry. Why do these people even bother?

Ask around and you'll get many different answers. Some people like the excitement and fast pace that a large contest affords. Others are working the contest to contribute something to a club or team score. Still others exploit the contests for a very worthwhile purpose: to get that elusive DX to qualify for a multitude of DX awards.

The DX award that is foremost in most minds is probably DXCC. In a recent letter, Pete Elmendorf, KB2OR said that, while observing the activity during major CW contests over the last couple of years, it was his opinion that a small station can shoot to 100 countries quickly. He enclosed a sample "battle plan".

Here is a somewhat altered version:

NORTH AMERICA

Category #1	Category #2
C6 Bahamas	FG/FS St. Martin
CO Cuba	HP Panama
FM Martinique	HR Honduras
HH Haiti	J7 Dominica
HI Dominican Rep.	J8 St. Vincent
HKØ San Andreas	OX Greenland
J3 Grenada	TG Guatemala
J6 St. Lucia	V3 Belize
K USA	YN Nicaragua
KL7 Alaska	YS El Salvador
KP2 Virgin Is.	
KP4 Puerto Rico	(10)
PJ St. Maarten, Saba, St. Eustacius	
V2 Antigua/Barbuda	
V4 St. Kitts	
VE Canada	
VP2E Anguilla	
VP2M Montserrat	
VP2V Br. Virgin Is.	
VP9 Bermuda	
XE Mexico	
ZF Cayman Is.	
4U U.N. New York	
6Y Jamaica	
8P Barbados (25)	

SOUTH AMERICA

CE Chile	CEØA Easter Is.
CX Uruguay	CP Bolivia
FY Fr. Guiana	HC8 Galapagos Is.
HC Ecuador	OA Peru
HK Colombia	8R Guyana
LU Argentina	
PJ/P4 Netherland Antilles	(5)
PY Brazil	
PZ Surinam	
YV Venezuela	
ZP Paraguay	
9Y Trinidad & Tobago	(12)

AFRICA

EA8 Canary Is.	CT3 Madeira Is.
ZS South Africa	EA9 Ceuta&Mellila
	5N Nigeria
(2)	(3)

EUROPE

Category #1	Category #2
CT Portugal	C3 Andorra
DL Fed. Rep. Germany	CT2 Azores
EA Spain	EA6 Balearic Is.
EI Ireland	FC Corsica
F France	GD Isle of Man
G England	GJ Jersey
GI N. Ireland	GU Guernsey
GM Scotland	HBØ Liechtenstein
GW Wales	IS Sardinia
HA Hungary	LX Luxembourg
HB Switzerland	TF Iceland
I Italy	UC White SSR
LA Norway	YO Rumania
LZ Bulgaria	4U U.N. Geneva
OE Austria	
OH Finland	(14)
OH0 Aland Is.	
OK Czechoslovakia	
ON Belgium	
OZ Denmark	
PA Netherlands	
SM Sweden	
SP Poland	
UA Eu. Russia	
UB Ukraine	
UP2 Lithuania	
UQ2 Latvia	
UR2 Estonia	
Y2-9 German Dem. Rep.	
YU Yugoslavia	
(30)	

OCEANIA

KH6 Hawaii	FO Fr. Polynesia
VK Australia	KH8 Am. Samoa
ZL New Zealand	(2)
(3)	

ASIA

JA Japan	HL Korea
UA9-Ø As. Russia	UL7 Kazakh
	UF6 Georgia
(2)	4X Israel
	(4)

Pete's original plan included 90 countries and reflected his point of view being located in eastern New York. I've added a few more countries that I feel are within reach, based on my own observations. We've bounced the list back and forth a couple of times and have come up with one that we feel is reasonable for NE and Great Lakes area hams.

Category #1 countries are those that are generally always active in a CW contest and relatively "easy" to get. Category #2 are generally more difficult due to either lack of activity or just plain hard to get (but not impossible). For QRPers, we can probably label these categories as #1: not really easy and #2 almost, but not quite, impossible.

There are a quite a few other countries, specifically Caribbean and Pacific islands, that are not included on the list that I would have included in Category #2, except for the fact that they are not often heard. I'm speaking of places such as KH2, KH3, KH4, KP1, PY0, FP, etc.

Be forewarned, DX difficulty is greater at the beginning of the contest. Better to conserve your energy and go for the hard ones on Sunday. By then, all the big guns will have probably worked them and you'll only be competing in lower-powered pile-ups. Often, there won't be any pile-up at all! If there is a pile-up, then good operating techniques come into play.

I've said it before, your best skill is listening. Listen and find out what system the other station is using to answer. Does he/she listen up or down a bit? Are the answers "moving", that is, is one contact made and then the next slightly down in frequency and the next slightly down again? QSK operation is essential. If the DX station is coming back to someone else, it does you no good to keep calling and marks you as someone who really doesn't know how to operate well. If the pile-up gets too rowdy, the DX station will just pack up and move somewhere else!

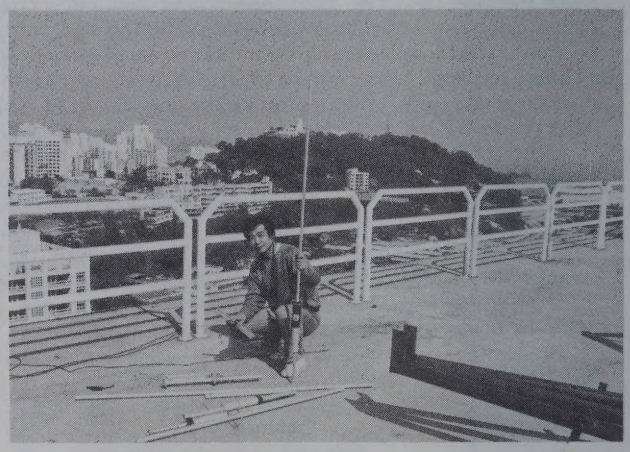
Pete mentioned another DXing trick that works quite well. Check the CW bands while a SSB contest is going on. It's not unusual to find a new country looking for a CW ragchew. While the big guns are busy on phone, you may very well find easy pickings on CW. The reverse holds true during a CW contest...check phone!

You've probably noticed by now that there has been a distinct bias in the article toward CW operation. It's not just because Pete and I are basically CW operators. The fact of the matter is that is you are the owner of a "smaller" station, CW should be your mode of choice because the contacts will be much easier to make. A weak CW signal gets through where a weak SSB signal gets lost in the noise.

In the recent CQ WW DX Contest (CW, of course!) Pete and I ran the contest to see how well the battle plan would work. We both operated 5 watts, except on those occasions when the QRP signal just wasn't making it. (I went up to 50W to get a D4 and Pete went up to 100W to grab ZB2X, CN8ES and a CX2 on 80m. Hey, we like QRP, but a new country for "all time/all power," is a new country, right?) We managed to do fairly well with picking and choosing: I picked up 20 new countries; Pete picked up at least 21 countries on QRP and a few more choice ones at 100W. A few countries garnered that are not on the list include D4, CN, ZB2, VP5, 5Y & FM. As you can see, the list is flexible in that there will always be something else out there.

You may be wondering, why go through the trouble of developing this plan? Why not just use the DXCC countries list? I like to think that the "plan" as a psychological tool. The DXCC countries list, with it's 300+ countries (many of which you've probably never heard of) can be very intimidating to someone just starting out. Developing a list of countries, while exercising a good dose of realistic expectations, can give the new DX chaser a sense of accomplishment. It's one thing trying to reduce a list of 300+, quite another when you work with a list of 100. There's also a sense of real achievement when you nab a country that isn't included on the modified list.

Go ahead and use our "battle plan" as a guide in compiling one of your own. Using the contests to build your country numbers is a leisurely way to run a contest. Instead of worrying about contest scores, you'll have the luxury of picking and choosing your contacts and spending as much time as you need to get that elusive DX! (WB9TBU)



Akito Nagi "Aki," JA5DQH is packing his "antenna farm" - a vertical mounted on the top of the Hotel President in Macau, where he operated XX9XX during the CQ WW DX CW contest. Aki specialized on low band operating and worked the following number of USA stations: 160 m - 9 QSOs, 80 m - 148 QSOs, 40 m - 420 QSOs. Aki also holds a US callsign - NN7S and is a member of JANET - JApanese speaking NETwork. Aki operated from many rare spots and is an excellent CW operator.

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TRAFFIC - EMERGENCY

MOBILE OPERATION

Chuck Clark, K4ZN

Mobile rigs are the backbone of most amateur emergency operations. You can't have too many of them, whether hand-held or mounted in a vehicle. It's never necessary to ask an emergency coordinator whether your help is needed if you're able to go mobile. The only question is where.

But aside from emergencies, mobiling is fun, and fun is what brought most amateurs into the game in the first place. There's neither need nor room here to go into the details of setting up and operating your mobile stations, it has been abundantly covered elsewhere. Ranging from 160 meters to UHF and beyond, using all modes, CW, SSB, FM, packet, TV, and others, it covers the whole spectrum of Amateur Radio. Here we will merely discuss a few aspects of mobile operation.

First of all there is the question of safety. If you're driving and also operating mobile at the same time, you should have a station that requires very little attention to operate. Should it be necessary to do something that requires more attention than you can safely give while driving, it's best to park in a spot where signal strengths are good and operate there. Amateurs using hand-held rigs (and not driving a car) don't have the same safety problem but they should still exercise caution if they are pedestrians.

While most mobilers operate from automobiles or afoot, where are numerous other interesting ways to operate mobile, and for some the very challenge of doing something different is one thing that attracts them to mobile operation. Amateurs have operated from ships, aircraft, bicycles, even spacecraft. And often there are safety questions to consider in these less common mobile operations too, questions that in some cases the government regulators have already addressed and written regulations to cover.

The FCC has issued rules governing the operation of amateur stations aboard ships and aircraft. It must be done with the approval of the master of the ship or the pilot in command of the aircraft. It must be separate from and independent of any other radio equipment. Any permanent installation must be in accord with rules for such installations aboard ships or aircraft. Operation of the amateur station must not interfere with other radio equipment on board, and must not constitute a safety hazard. As for aircraft, the FAA has enacted stricter rules. You simply may not operate, not even a receiver only, on board an airline aircraft or on board any aircraft flying by instruments, unless it has been fully determined by tests on that same aircraft that such operation will not cause any interference to any navigation or communication equipment. In the case of airline aircraft, this determination must be made by the airline, not by the individual pilot. The likelihood that you would cause an accident is small, but it would be so serious if it did occur that such a blanket prohibition is justified.

Of course, if you're flying your own plane or going up with a friend, or in an emergency providing communication between an airborne observer and headquarters, such restrictions don't restrict you very much. The same is true if you're aboard a private boat. Take your rig along and enjoy it.

ROGER DODGER

One frequently misused and overused word in radio communication is Roger. Originally it was the letter R in the Army Air Corps phonetic alphabet, Able, Baker, Charlie, etc., the list that we hams used until a few years ago (and some still do). In telegraphy, the letter R was sent to acknowledge receipt of a message, so Roger was used in the same way on voice circuits. Before World War II, voice communications between aircraft and ground were generally quite informal. We hams would have felt quite at home, in fact many of the operators were themselves hams. Back in those days formal communications went by CW, and many airline radio operators were hams too.

World War II changed that. The large number of aircraft of many nations that had to work together made it necessary to standardize and streamline procedures. "Go ahead" meant "fire" to a British artillery officer, so radio operators said "over" to tell the other station to transmit. "Repeat" meant "fire another barrage," so radio operators asked for a repetition by "say again." "Roger" however did remain to acknowledge receipt.

After the war, commercial aviation took on an international character. At first language was not a serious problem, because communications with aircraft flying overseas were handled by CW. But along came SSB and flying radio operators had to find other jobs. Pilots could talk directly with traffic control centers and control towers, and the time saved became more important as skies grew more crowded and as more of the planes were jet propelled and moved at higher speeds. But then the language problem arose. English had become the international language of aviation, but in the interest of safety phrases had to be standardized for the benefit of those not too fluent in English. The old Able Baker phonetic alphabet had some difficulties for persons not fluent in English, so the International Civil Aeronautics Organization (ICAO) developed standard voice procedures, including an alphabet easier for non-English-speaking persons to use, the Alfa Bravo system which has been promoted for years now for amateur use. But in their procedures they retained Roger as the word to acknowledge receipt.

Roger does that, and that's all it does. It means, "I have received what you transmitted." But it's often abused, in two ways: sometimes it is used to mean more than it's supposed to, and sometimes it does not mean what it's supposed to.

ICAO procedures call for the use of "Affirmative," not "Roger" when you mean "Yes, I agree." So when someone asks, "Can you operate on two meters?" and you answer, "Roger," all you are saying is, "I acknowledge receipt of your question." To indicate that you can operate on two meters you should have replied, "Affirmative." Another procedure word sometimes used is "Wilco," short for "will comply," but it's seldom heard on the amateur bands.

And on the other side, amateurs often use Roger when they don't mean it. When someone sends them a message and they need fills, for instance, too often they will begin by saying "Roger," then proceed to tell you what they did not receive. One of these days someone is going to leave them in the lurch and they will be stuck with an incomplete message for which they have given receipt, when the transmitting operator heard the Roger and didn't listen for anything further.

Of course, there's the CB lingo, Affirmatory, Negatory, Ten-four, but let's not go into that,otherwise we might start hearing that on the ham bands, and that might be a catastrophe. (K4ZN)

KH6BZF PROPAGATION REPORT

Lee Wical, 45-601 Luluku Rd; CRT #44-25, Kane'Ohe, HI 96744

The first diagram shows the value of solar flux (top curve) and SSN - sunspot number (bottom curve). The Y axis and scale is the same for both. The X axis is calibrated in days of the month.

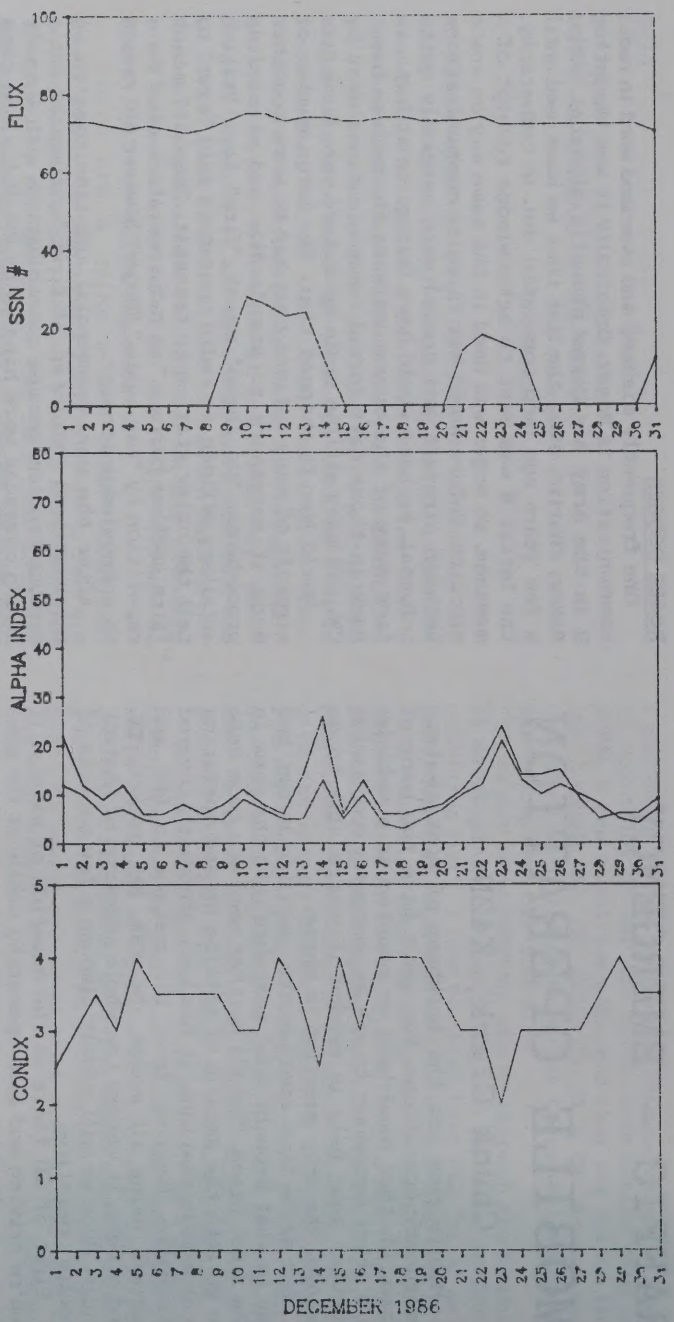
The second diagram shows variation of the Alpha Index for each day - an area limited by two curves. [I.e. A_r and A planetary (world value)]

The third diagram shows the propagation quality (CONDX), where the scale is: 5 = Above Normal, 4 = High Normal, 3 = Low Normal, 2 = Below Normal, 1 = Disturbed.

The Geomagnetic Field Level scale reads as follows: 0 = Very Quiet, 1 = Quiet, 2 = Unsettled, 3 = Active, 4 = Minor Storm, 5 = Major Storm.

To make your own forecast look at the diagrams and tables for values 27.5 and 55 days ago, also check the WWV transmissions (18 minutes after the hour) for daily values and make your own accurate predictions.

Statistical information is compiled by KH6BZF and processed on a computer by VE3BMV/W2.



THOUGHTS FROM THE RAINBOW BAY: Ever noticed that a good hotel is one where you can take the clothes hangers... of the rod! Don't forget: When you are over the hill... you pick up speed!!! No man's opinions are better... than his information!!! Propagation... is a jealous mistress!!! It is never too late... to have a happy childhood!!! Being a PROPAGATIONIST is the only "scientific discipline" in the world... where failing to promote one's self is widely regarded as... being arogant!!!

1986 NOV	CNDX	SOLAR FLUX	LEVEL	SSN#	GEOM.L FM	GEOM.L TO	ALPHA FROM	ALPHA TO	K	NOTES
1	2.5	73	VY LOW	0	3	1	12	22	1	NO SUNSPOTS
2	3.0	73	|	0	1	2	10	12	1	NO SUNSPOTS
3	3.5	72	|	0	1	3	6	9	1	NO SUNSPOTS
4	3.0	71	V	0	1	1	7	12	2	NO SUNSPOTS
5	4.0	72		0	1	1	5	6	1	NO SUNSPOTS
6	3.5	71		0	2	1	4	6	1	NO SUNSPOTS
7	3.5	70		0	1	2	5	8	2	NO SUNSPOTS
8	3.5	71		0	1	1	5	6	1	NO SUNSPOTS
9	3.5	73		14	2	2	5	8	2	RGN 4760(4)N26;E39
10	3.0	75		28	2	2	9	11	3	RGN 4760(4)N26;E26 RGN 4761(2)S28;E73
11	3.0	75		26	2	1	7	8	2	RGN 4760(4)N26;E15 RGN 4761(2)S28;E60
12	4.0	73		23	1	1	5	6	2	RGN 4760(2)N27;E03 RGN 4761(1)S28;E43
13	3.5	74		24	1	1	5	14	2	RGN 4760(2)N28;W06 RGN 4761(2)S28;E36
14	2.5	74		11	3	1	13	26	1	RGN 4761(1)S32;E19
15	4.0	73		0	1	1	5	6	1	NO SUNSPOTS
16	3.0	73		0	1	2	10	13	3	NO SUNSPOTS
17	4.0	74		0	1	1	4	6	1	NO SUNSPOTS
18	4.0	74		0	1	1	3	6	0	NO SUNSPOTS
19	4.0	73		0	1	2	5	7	1	NO SUNSPOTS
20	3.5	73		0	1	2	7	8	3	NO SUNSPOTS
21	3.0	73		14	1	2	10	11	3	RGN 4762(04)S27;E29
22	3.0	74		18	1	3	12	16	4	RGN 4762(08)S27;E16
23	2.0	72		16	1	3	21	24	3	RGN 4762(06)S27;E03 K@1500 = 5
24	3.0	72		14	3	1	13	14	2	RGN 4762(04)S27;W10
25	3.0	72		0	3	1	10	14	1	NO SUNSPOTS, NO PCA
26	3.0	72		0	1	3	12	15	3	NO SUNSPOTS, NO PCA
27	3.0	72		0	2	2	10	9	2	NO SUNSPOTS, NO PCA
28	3.5	72		0	1	1	8	5	2	NO SUNSPOTS, NO PCA
29	4.0	72		0	1	1	5	6	2	NO SUNSPOTS, NO PCA
30	3.5	72		0	1	1	4	6	1	NO SUNSPOTS, NO PCA
31	3.5	70		12	1	2	7	9	2	RGN 4763(02)N07;E26

CONTEST RULES

FRANK ANZALONE, W1WY
CQ Magazine
14 Sherwood Road, Stamford, CT 06905

Calendar of Events

*	Jn.31 -Fb.1	YL ISSB CW Party
*	Feb. 1-2	Classic Radio Exchange
*	Feb. 7-8	RSGB 7 MHz Phone Contest
	Feb. 7-8	QCWA CW QSO Party
	Feb. 7-8	Vermont QSO Party
	Feb. 7-9	New Hampshire QSO Party
	Feb. 8	N.A. CW Sprint
	Feb. 14-15	Dutch "PACC" Contest
	Feb. 14-16	YLRL YL-OM Phone Contest
	Feb. 15	N.A. SSB Sprint
	Feb. 20-22	**CQ WW 160 M SSB Contest**
	Feb. 21-22	ARRL DX CW Contest
*	Feb. 21-22	RSGB 7 MHz CW Contest
*	Fb.28 - Mr.1	French Phone Contest
	Fb.28 - Mr.1	Rat's Nest & Crooked Stick
	Fb.28 - Mr.2	YLRL YL-OM CW Contest
*	Mar. 7-8	ARRL DX Phone Contest
*	Mar. 7-8	QCWA Phone QSO Party
	Mar. 14-15	Maine QSO Party
	Mar. 14-15	RSGB Commonwealth CW
	Mar. 14-16	Virginia QSO Party
	Mar. 15	ZERO District QSO Party
	Mar. 15-16	Wisconsin QSO Party
	Mar. 21	YLRL East Meets West
*	Mar. 21-22	YL ISSB Phone Party
	Mar. 21-22	Bermuda Contest
	Mar. 21-23	BARTG Spring RTTY
	Mar. 28-29	**CQ WW WPX SSB Contest**
	Mar. 28-29	UBA SWL Phone Award
	Apr. 4-5	Connecticut QSO Party
	Apr. 4-5	IBM QSO Party
	Apr. 8-10	DX YL to NA YL CW
	Apr. 11-12	CARF Commonwealth Phone
	Apr. 15-17	DX YL to NA YL SSB
	Apr. 25-26	Swiss "Helvetia" Contest
	May. 2	Utah QSO Party
	May. 9	Nevada QSO Party
	May 23-24	UBA SWL CW Award
	May 30-31	**CQ WW WPX SSB Contest**
	July 18-19	**CQ WW WPX VHF Contest**

Dutch "PACC" Contest

1200Z Sat. to 1200Z Sun., Feb. 14–15

It's the world working The Netherlands on all six bands, 1.8 through 29.7 MHz, in the band sections recommended for contest operation by the IARU. The same station may be worked on each band, but on one mode only, phone or CW, for QSO and multiplier credit.

Categories: Single operator, multi-operator, and SWL.

Exchange: RS(T) plus a QSO number starting with 001. Dutch stations will add two letters to identify their province. There are 12 provinces: DR, FR, GD, GR, LB, NB, NH, OV, UT, FL, ZH, and ZL.

Scoring: Each QSO with a PA/PB/PI station counts one point. DX stations determine their multiplier by the number of provinces worked on each band (maximum of 72).

Final Score: Total number of QSO's times the number of provinces worked on each band.

Awards: Certificates to the top scoring station in each category in each country and call areas of JA, LU, PY, UA9/0, VE/VO, VK, W/K, ZL, and ZS. Also second- and third-place awards if returns justify.

SWL's must log the call of the Dutch station as well as the station being worked and both serial numbers. Scoring same as above. Indicate the multiplier in a separate column in your log only the first time it is worked on each band. Include a summary sheet showing the scoring, your name and address in block letters, and the usual signed declaration.

Mailing deadline is March 31st to: PACC Contest, Att: F. Th. Oosthoek, PAØINA, P.O. Box 499, 4600 AL Bergen Zoom, The Netherlands.

YL-OM Contest

SSB: Feb. 14–16 CW: Feb. 28–Mar.2
1400Z Sat. to 0200Z Mon.

It's the YL's working the OM's in this annual activity organized by the YLRL. All bands may be used, but cross-band contacts or contacts with stations on net frequencies do not count.

Phone and CW are separate contests and require separate logs. The same station may be worked once only regardless of band. Use only 24 hours out of the 36-hour contest period and indicate breaks in your log.

Exchange: QSO number, RS(T), and state, province, or country.

Scoring: Each QSO is worth 1 point. Multiply total by the number of US states, VE provinces, and DX countries worked.

There is also a power multiplier of 1.25 for stations running 150 watts or less on CW, and 300 watts PEP on SSB. Multiply your final score by the above factor if you qualify.

There is a penalty of three contacts for each duplicate contact removed from the log by the contest committee.

Frequencies: CW—3555, 7055, 14055, 21195, 28195. SSB—3955, 7255, 14295, 21395, 28595. Plus or minus 15 kHz.

Awards: First-place cups to both YL and OM winners in each contest; second- and third-place winners will receive certificates. Top scorers in each US and VE call area and each DX country will also receive certificates, provided there are at least two logs from that area or country with a minimumof ten contacts.

All entries must be postmarked no later than March 16th. This year they go to: The YLRL V.P., Mary Lou Brown, NM7N, 504 Channel View Drive, Anacortes, WA 98221.

1986 CQ WW 160 Meter Contest Results Addendum

The following are additions (CW) and corrections (Phone) to the results of the 160 Meter Contest published in the December 1986 issue.

CW Single Operator

Pennsylvania				
W3UHP	39,615	305	57	10
Norway				
LA7SI	9,856	68	28	28

Phone Multi-Operator

Michigan				
W8RA	128,685	825	68	16

CQ WW 160 Meter SSB Contest

2200Z Fri. to 1600Z Sun., Feb. 20–22

Just a reminder that the SSB section of our 160 Meter Contest will be coming up the last full weekend of this month.

Extensive coverage has been given to this event, with complete rules in the November issue and a briefing in last month's Calendar. Therefore, it would serve no purpose to repeat them again. They are the same rules that have been used these past many years and are well known worldwide.

Mailing deadline for your entry in last month's CW contest is February 28th, and March 31st for this month's SSB section.

They can be sent directly to the 160 Contest Director, Donald McClenon, N4IN, 3075 Florida Ave., Melbourne, FL 32904. And, of course, they can always be sent to the *CQ* office. *CQ* 160 Meter Contest, 76 North Broadway, Hicksville, NY 11801. (Be sure to indicate CW or SSB on the envelope.)

ARRL International DX Contest

CW: Feb. 21–22 Phone: March 7–8
0000Z Saturday to 2400Z Sunday

Rules are the same as last year. However, I strongly recommend that you study the announcement in the December issue of QST for more details. Also send a large SASE (2 IRC's for DX) for sample log and entry forms.

All bands may be used, 1.8 through 28 MHz, but not 10, 18, or 24 MHz. Aeronautical or maritime mobile stations cannot be worked for contest credit. Following is a brief outline.

Categories: Single operator, both single and all band. Multi-operator, one transmitter and two transmitters. Also multi-operator, multi-transmitter. Also QRP, all band only (5 watts or less output). Multi one and two transmitter stations must remain on a band at least 10 minutes once a contact is made. Multi-transmitter stations no limit, but only one signal per band.

Exchange: RS(T) and state or province for W/VE; RS(T) and power input for DX stations (three-digit number).

QSO points: W/VE stations earn three points for each DX contact. DX get three points for each W/VE contact.

Multiplier: Each DXCC country worked on each band for W/VE's. DX stations use US states (48), District of Columbia (DC), and VE districts VE1–8, plus VO and VY1 for their multiplier (10). (Maximum multiplier of 58 per band.)

Final Score: Total QSO points times the sum of the multiplier from each band. Entries with 500 or more QSO's must include a QSO check sheet.

Awards: Certificates given in each category, in each country, and in each ARRL section, plus a wide selection of plaques. Also certificates to DX stations making over 500 QSO's.

Disqualification regulations will be strictly enforced and are listed in the official rules. Mailing deadline for all entries is April 7th, and they go to: ARRL DX Contest, 225 Main Street, Newington, CT 06111.

Maine QSO Party

0000Z Sat. to 2359Z Sun., March 14–15

The Portland, A.W.A. is again running this QSO party. The same station may be worked on CW, phone, and RTTY on each band. ME stations may contact other ME stations for QSO credit.

Exchange: RS(T), QSO serial number, and QTH. County for Maine; state, VE province, or country for others.

Scoring: Count 1 point for phone contacts, 3 points if on CW, and 5 points on RTTY. ME stations multiply total by (ME counties + states + provinces + DX countries) worked for their final score.

All others use Maine counties for their multiplier (maximum of 16).

Frequencies: CW—1810, and 60 kHz up from low edge on other bands. Phone—1870, 3930, 7280, 14280, 21380, 28580. RTTY—3610, and 90 kHz up on other bands. Novice—3720, 7120, 21120, and 28120.

Awards: Certificates to the top-scoring stations and a trophy to the highest aggregate ME club score (ME stations indicate club affiliation in their logs).

Applications for the Worked All Maine Counties award may also be sent to the address below. Mail logs to Portland A.W.A., P.O. Box 1605, Portland, ME 04104.

Virginia QSO Party

1800Z Sat. to 0200Z Mon., March 14–16

The Sterling Park ARC of Virginia is again sponsoring this year's party. The same station may be worked on each band and each mode; VA stations may work other in-state stations for QSO and multiplier credit; and VA mobiles in each county change.

Exchange: QSO no. (starting with 001) and QTH. County for VA; state, province, or DX country for others.

Scoring: One point per SSB contact, two points if on CW, RTTY, or SSTV. VA stations multiply total QSO points by sum of states, provinces, DX countries, and VA counties worked.

Others multiply total VA QSO points by the number of VA counties worked (maximum of 95).

Frequencies: CW—60 kHz up from low end of each band. SSB—3930, 7230, 14285, 21375, and 28575. Also Novice bands on CW, and both modes on 160 except in the "DX Window."

Awards: Certificates to winners in each state, province, DX country, and VA county. There are six plaques as follows: to top VA single operator stations, CW/SSB, CW only, Mobile, Novice/Tech, and to the top CW/SSB out-of-state station, and 4th area club.

Indicate each new multiplier in a separate column as it is worked. Include a summary sheet with your log, and an SASE if results are desired.

RSGB Commonwealth CW Contest

1200Z Sat. to 1200Z Sun., March 14–15

This is the Golden Anniversary of the Commonwealth Contest. An additional call area has been created for the contest only. Station GB5CC may be worked for additional credit.

Only RSGB members residing in the United Kingdom and radio amateurs licensed to operate within the British Commonwealth and British Mandated Territories are eligible to participate.

Contacts between stations in the same call area are not permitted. All the British Isles prefixes count as one call area (except GB5CC).

Activity will be on CW only, and it is requested that operation be confined to the lower 30 kHz of each band, 3.5 through 28 MHz (except for Novice contacts).

Exchange: RST plus a three-figure QSO number starting with 001.

Scoring: Each contact is worth 5 points. In addition, a bonus of 20 points may be claimed for the first, second, and third contact with each call area on each band.

Entries: May be single or multi-band.

Each band is scored separately and totaled for the final all-band score. There is no multiplier; just add the total QSO and bonus points from each band.

Multi-band scores cannot also be used for single-band awards. You can request that a single band be judged for awards. Only single operator entries will be accepted.

Use a separate log sheet for each band and include a summary sheet showing the scoring and a signed declaration that all rules and regulations have been observed.

There is also an SWL section with rules and scoring same as above. If both stations in contact are heard, they can be reported as separate entries for credit.

Awards: Certificates to the first, second, and third place winners in all areas, both single and multi-band, and three Rose Bowl Trophies for the overall winners.

Logs must be received by April 14th and go to: A.K. Gray, G4DJX, 44 Sherwood Avenue, St. Albans, Herts., AL4 9PQ England.

ZERO District QSO Party

1800Z to 2400Z Sunday, March 15

This year's party is being sponsored by the Davenport RAC of Iowa.

Stations outside the ZERO district will be contacting ZERO stations only. ZEROs may work anyone. The same station may be worked on each band and mode, mobiles in each county change.

Exchange: RS(T) and state. ZEROs will also include their country.

Scoring: Phone QSO's count 1 point, CW contacts are worth 2 points. ZEROs multiply total QSO points by (states + VE provinces + DX countries + ZERO counties) worked for their final score.

All others use ZERO counties for their multiplier.

Stations making over 100 QSOs must include a dupe sheet with their log.

Frequencies: CW—60 kHz up from low edge of each band. Phone—3900, 7270, 14300, and 146.52. Novice 7130. *(Other bands?—ed.)*

Awards: None indicated, but certificates have been awarded to high scorers in each area in past contests.

Mailing deadline is April 20th to the Davenport ARC, W0BXR, 5305 White Post Road, Bettendorf, IA 52722.

Wisconsin QSO Party

1800Z Sun. to 0100Z Mon., March 15-16

This one is a shorty, only 7 hours, and is again sponsored by the West Allis Radio Amateur Club.

The same station may be worked on each band and mode, and mobiles in each county change. Wisconsin stations may contact other in-state stations for QSO and multiplier credit.

Classes: Single operator, multi-operator, both single and multi-transmitter, Novice/Tech. and club.

Exchange: RS(T) and QTH. County for Wisc.; state or province for others.

Scoring: Phone QSO's count 1 point, 2 points if on CW.

Wisc. stations multiply total QSO points by (U.S. states + VE provinces + Wisc. counties) worked for their final score. DX contacts count for QSO points only.

Others use total Wisc. QSO points by the number of Wisc. counties worked (maximum of 72).

Wisc. mobiles can add a bonus of 500 points to their final score for each county outside their own from which they operate (minimum of 15 QSOs from each county).

Frequencies: CW—3550, 3725, 7050, 7125, 14050, 21150. SSB—3890, 7290, 14290. Other bands may be used.

Awards: To the highest scorers in each state and each province, and the highest aggregate club score. Plus awards to the top scorers in each class for Wisconsin stations.

Logs with more than 100 QSOs must include with their entry a separate dupe sheet for each mode.

Mailing deadline is April 15th to: Wisconsin QSO Party, c/o West Allis Radio Amateur Club, P.O. Box 1072, Milwaukee, WI 53201.

Bermuda Contest

0001Z Sat. to 2400Z Sun., March 21-22

This is the 29th year for this popular contest open to amateurs in the United States, Canada, the United Kingdom, West Germany, and Bermuda.

Stations in the U.S. and Canada may work the U.K., West Germany, and Bermuda. The U.K. and West Germany may work the U.S., Canada, and Bermuda. Activity will be on the 3.5, 7, 14, 21, and 28 MHz bands. Cross-band or cross-mode contacts are not permitted. The same station may be worked on each band, phone and again on CW, providing there is a 30-minute separation between contacts on the same band.

You are limited to 36 hours out of the 48-hour contest period. Off times of no less than three consecutive hours must be clearly indicated on the log. Participation is for single operator stations only and must be from their own residence.

It is recommended that stations operate without the aid of a linear amplifier, in keeping with the spirit of the contest.

Exchange: RS(T) and QTH. Parish for VP9, state for the U.S., province for Canada, county for the U.K., and DOC number for West Germany.

Scoring: Five points for each QSO. Multiply total by number of different VP9 stations worked on all bands. (Note: It's each VP9 station, not each parish.) Counted once only per band regardless of mode used.

Awards: Certificates to top scoring stations in each U.S. state, VE province, U.K. county, and DL DOK (minimum of 100 QSO's). The overall winner in each of the above countries, however, will receive something more substantial—a trophy to be presented at the Society's Annual Dinner in Bermuda in October. Round-trip transportation and hotel accommodations will be provided for the winners. (Note: Winners in '82, '83, '84, '85 and '86 are not eligible.)

Use a separate log sheet for each band and a dupe sheet for logs with 200 or more contacts. A penalty of three contacts will be deducted for each duplicate contact for which points are claimed. An excessive number of claimed duplicates means disqualification. The usual signed declaration is also required.

Entries must be received no later than May 31st by the Radio Society of Bermuda, Box HM275, Hamilton HM AX, Bermuda.

The Worked All Bermuda Award can no longer be obtained by contest log information. Proof of contact with all nine parishes is required in the form of QSL cards. Send your application to the above address attention the Awards Manager.

Trophy winners in the 1986 contest were G4GIR, DL6FBL, W3MA, VE3BVD, VP9LD and VP9LB. (BDA-CW)

1986 Bermuda Contest Results
U.S.A. and Canada

W3MA	269,100	VE3NYT	3,150
VE3BVD	262,640	VE3CWE	2,835
K1ZM	195,125	W6HX	2,415
AK1A	185,625	VE1CYL	1,995
K2SG	151,430	KE8AZ	1,815
VE1NG	123,360	W4KMS	1,800
VE3XN	121,980	VO1AW	1,175
VE5RA	75,980	W9YCV	1,000
NJ8N	67,770	NL7V	975
N3RD	44,240	WK4F	780
VO1MP	31,700	VE1AGZ	570
W3VT	20,720	K8MOU	315
KE1E	20,640	W2IP	230
K3DH	15,345	VE7XYL	195
K3FN	12,600	W5EIJ	150
VE3BGX	9,020	KF1B	90
K1RM	8,310	W7KOI	85
VE2EBK	7,480	NZ5M	65
VE1CBF	6,880	KU7Y	65
KA1TY/2	6,240	KU7Y	50
VE2QO	5,600	W2CC	45

There was a total of 146 entries from the five participating countries.

East Meets West SSB Contest

1800Z to 2200Z Sunday, March 21

This is a new one sponsored by the YLRL and open to YL's only. East works West, and vice versa. The same station may be worked once on each band. No cross band, net, or repeater contacts allowed.

Those considered "East" are 1st, 2nd, 3rd, 4th, 8th, and 9th call areas; VE1-3, Europe, Africa, South America, Caribbean, and Central America (except Mexico). "West" are: 5th, 6th, 7th, 10th, KL7 and KH6; VE4-0, Asia, Oceania, Australia, New Zealand, and Mexico.

Exchange: RS, QSO number, name, and, state, province, or country.

Scoring: One point for each different YL contacted on each band. (no multiplier).

Frequencies: 3955, 7255, 14295, 21395, and 28595. Plus or minus 15 kHz.

Awards: Winners will receive YLRL postcards.

Print or type original log and check for duplicate contacts. The operator's signature is required.

All entries must be received by April 21st and go to: Mary Lou Brown, NM7N, 504 Channel View Drive, Anacortes, WA 98221.

B.A.R.T.G. Spring RTTY Contest

0200Z Sat. to 0200Z Mon., March 21-23

This contest is sponsored by the British Amateur Radio Teleprinter Group and is being administrated by Peter Adams, G6LZB. The contest is open to all amateurs in three classes—single operator, multi-operator, and SWL.

Activity will be on all bands 3.5-28 MHz, but no 10 MHz. Operation is limited to 30 hours out of the 48-hour contest period. The 18 hours off may be taken at any time, but not less than 3-hour periods.

Exchange: RST plus a three-figure contact number and time in GMT (full four figures).

Points: Contacts with stations within own country 2 points. With stations in other countries 10 points. And a bonus of 200 points for each country worked on each band including your own. The same station may be worked on each band for QSO and multiplier credit.

Multiplier: Total number of countries worked on each band and number of continents worked (continents are counted once only). W/K, VE/VO, and VK call areas will be counted as separate multipliers.

Final Score: (a) Total QSO points × country multiplier. (b) Country multiplier × bonus points × continents worked. Add sum of (a) and (b) for your final score.

Shortwave listeners must show call of station being heard, report of message being sent, and call of station being worked.

Awards: Certificates to the top-scoring stations in each class and to the continental leaders. Also in each W/K, VE/VO, and VK call area.

Use a separate log sheet for each band and a summary sheet showing the scoring, etc. Log forms are available from G6LZB; include 4 IRCs to cover postage.

Logs must be received by May 31st and go to: Peter Adams, G6LZB, 464 Whippendell Road. Watford, Herts England WD1 7PT.

1986 WAE CW Contest Results
Single Operator—North America

U.S.A.		K4BAI	3,026
K1ZM	777,920	W1OPJ	2,898
KC8C/3	568,404	W6UOF	2,628
W3GM	479,360	WA2UDT	2,400
K03F	297,136	W5NR	2,365
K8HVT	238,650	WL7E	2,108
K3WW	227,630	N8BC	1,664
WC4E	176,000	KG9N	1,656
KA1LZR	172,752	K8MR	1,369
K4YKZ	139,183	N0FFZ	896
K5ZD/1	116,415	N3CZB	352
K2SX	107,388	K1EI	192
K2POF	77,250	NN3SI	112
NQ2O	74,117	AH6EK	112
W9RE	65,968	Multi-Opr.	
K1XM	64,554	K1IU	643,771
W3ARK	59,570	N3BNA	96,023
KA1DWX	59,075	WA7EGA	43,792
KW2J	55,080	WB3JRU	20,496
W2DW	46,949		
K5KLA	46,656	Canada	
KD2HE	41,216	VE3ST	27,590
N6EK/1	40,584	VE1CBF	9,447
N6AW	39,382	VE3NBE	6,292
KC1F	31,668	VE4MF	1,848
K4FPF	29,202	VE3OMU	1,428
KQ1F	27,270	VO1QU	181,350
W2GKZ	24,644		
W4YN	20,088	Costa Rica	
KE0Y	17,424	TI8X	25,872
W6BIP	16,464		
W8UVZ	15,246	Dom. Rep.	
NG0T	13,860	HI6BRCD	12,450
K3TX	12,180		
K8CV	7,198	Panama	
W1LQQ	6,440	HP1AC	2,958
KZ3B	5,106		
K6NA	3,816	Hawaii	
W5EIJ	3,360	KH6IJ	2,296

1986 BARTG RTTY Contest Results
North America

KT1N	494,340	WA6WGL	63,210
WB5HBR	207,432	WB5EUC	62,092
WB1AEL	203,814	W3AOH	49,856
W0WP	161,160	K8CV	32,550
NC2V	155,520	HP1AC	20,860
K6WZ	128,448	N0FMR	14,350
VE7YB	119,700	KL7PG	13,882
KB2VO	99,900	W0LHS	13,500
VE1TE	97,244	WA3JXW	3,100
VE6ZX	85,260	*WA7EGA	193,680
W6JOX	82,236	*Multi-opr.	

Who are you going to believe? The October issue of *Radio Communication*, the RSGB's official magazine, had the dates of their 7 MHz Contest listed as Phone Feb. 7-8 and CW Feb. 21-28. An RSGB Contest Bulletin received weeks after we made the announcement in the February calendar had the CW weekend as Feb. 28 to March 1. The stateside participation in this activity has been almost nil in the past. We doubt there will be any improvement this year.

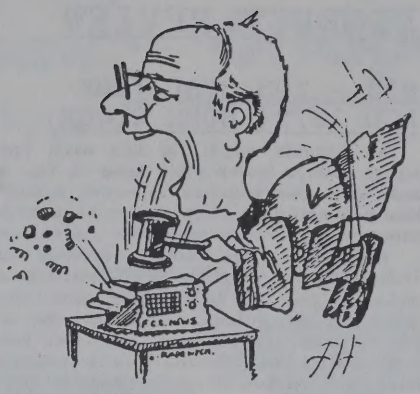
The Kuwait ARS sponsored a contest on the occasion of the 5th Islamic Summit Conference on Jan. 25-30. If you worked any 9K2/IC5's during that period, send your entry to P.O. Box 5240, Safat 13053, Kuwait. We are forwarding the information to some of the stateside bulletins. It was only received about a month before the data mentioned above.

We are still holding some plaques won in the 1983 and 1984 World-Wide DX Contest. Those of you still waiting for your award, especially contest expeditions who usually don't give any shipping instructions or winners who have moved from the QTH used in the contest, should contact me.

Announcements for coming events should be sent to my home address indicated at the bottom of this column. Deadline for the June issue is March 15th, and April 15th for July events.

73 for this time, Frank, W1WY

FCC NEWS



BILL GRENFELL, W4GF

7216 Valleycrest Blvd., Annandale, VA 22003

"THE ARRL VEC HAS DISCREDITED FOUR OF ITS VOLUNTEER EXAMINERS OWING TO APPARENT TESTING 'IRREGULARITIES' AT TWO SESSIONS CONDUCTED BY FOUR VEs." "...VEC staffers noted that some exam papers had not been returned by the Ve team as required." "Because of this and other irregularities, code and written exams administered to 50 candidates at the sessions held by the four VEs have been voided and the Certificates of Successful Completion issued to the candidates at the sessions were recalled. At the request of the FCC's Personal Radio Branch, the ARRL/VEC has submitted to the PRB copies of all the paper work involving the sessions for review and possible further action." (ARRL Letter, 12/23/86)

DIANE KILLORY HAS BEEN NAMED TO BE THE GENERAL COUNSEL OF FCC BY ITS CHAIRMAN, MARK FOWLER. She has been Senior Advisor to Commissioner Dennis Patrick since December 1983. She replaces Jack Smith who has been with FCC for 13 years serving as its Common Carrier Bureau Chief from 1983 to 1984 and as its General Counsel since 1985. Smith has transferred to Deputy General Counsel for Operations of the Federal Home Loan Bank Board. A graduate, with honors, from the University of Rochester and the Harvard Law School, Killory was an attorney with the law firm of Steptoe and Johnston, where she practiced in the area of communications law. (ARRL Letter, 12/23/86)

FCC HAS DENIED A PETITION FILED BY THE ARRL, ON BEHALF OF TWO CALIFORNIA MEMBERS, FOR RELIEF FROM POWER LINE CORONA INTERFERENCE LEVELS UP TO "10 dB OVER S9 ON 160 THROUGH 20 METERS." The power company claimed that over $20,000 had been spent trying to solve the problem. In denying the petition, FCC's Chief Scientist reported that its Field Operations Bureau had determined that the only way to eliminate the interference would be by replacing the existing (power line) conductors. He said "The Commission's past policy with regard to this type of interference has been to require power companies to correct problems if the RFI is caused by defective line insulators, loose/unbound hardware, discharges form defective lightning arrestors, or defective transformers. "However, the Commission has not required power companies to correct RFI on properly installed transmission lines, if the interference is caused by corona, if the interference is to only a few individuals, and if correcting the problem would constitute a major financial burden to the power company, which would be passed on tho the public." (ARRL Letter 12/23/86)

TWO NOVICE CLASS AMATEUR RADIO OPERATORS, BUT NOT AMATEUR PILOTS, HAVE FLOWN NON-STOP, NON-REFUELED, AROUND THE WORLD IN THE "VOYAGER" AIRCRAFT. Jeana Yeager, KB6QLR and Dick Rutan, KB6QLS made aviation history in a specially built aircraft, designed by Dick's brother Burt, when they completed their 9 day flight at Edwards Air Force Base in southern California. They were reported to have an amateur station on board for emergency back-up purposes only. Most operation took place on FCC authorized "Flight Test" frequencies 6,550, 8,822 and 13,312 kHz, callsign AFS6VO, USB. Some transmissions, appearing to be deliberate interference to the Voyager Communications have been reported to FCC. (Westlink Report 12/26/86, ARRL Letter 12/10/86)

A DELAY IN THE TURN OF THE MAINTENANCE OF THE EXAMINATION QUESTION POOL TO THE VOLUNTEER EXAMINER COORDINATORS (VECS) HAS BEEN REQUESTED OF FCC BY THE ARRL. It ...filed a 'request for stay pending review' requesting the Commission stay the December 31st effective date of PR Docket 85-196, which transferred the maintenance of question pools for amateur examination from the Commissioners to..." (the VECs). "Thus, any VEC could, if it wished, have its own question pool independent of other VECs. "This question pool could contain question not in other pools, and the questions would be much easier (or harder) than other VECs. The Commission expects that the VECs will band together and established one question pool. The ARRL filed a Petition For Reconsideration in this rulemaking September 29. However, there is no requirement for the Commission to act on this petition prior to the rulemaking's December 31 effective date. Thus the League filed this request to stay the effective date." (ARRL Letter, 12/23/86). Last month's FCC News reported that FCC had announced that the transfer would be effective as of 12/31/86. As this FCC News was written, there was no word on any action by the Commission on the League's request for a stay.

THE NOVICE ENHANCEMENT REPORT AND ORDER MAY BE OUT BY FEBRUARY IS THE WORD FROM MICHAEL FITCH, THE NEW CHIEF OF THE FCC'S PERSONAL RADIO BUREAU. At least one comment filed in the Docket (PR No. 86-161) questions whether biological hazards of the 1240-1300 MHz band would make it an unwise choice for beginners. The ANSI 1982 standard indicates that 1270 MHz appears to be less of a problem than 800 MHz. to which the public is exposed routinely. (ARRL Letter, 12/23/86; ARRL 12/04/86)

IN RESPONSE TO THE ENVIRONMENT PROTECTION AGENCY'S (EPA PROPOSALS FOR LIMITING EXPOSURE OF THE PUBLIC TO RF RADIATION, FCC RECOMMENDED THAT IT SET A SPECIFIC STANDARD. The Commission noted that it presently has rules in effect which limit RF radiation primarily for employees of broadcast stations and certain other radio services. The FCC presently uses the RF radiation standards recommended by the American National Standards Institute (ANSI). It stated there could be a serious impact on telecommunications services if the EPA were to decide not to recommend a specific exposure standard. The continued lack of a uniform federal standard in this area will likely result in increasing difficulties encountered by telecommunications facilities in complying with a potential patchwork of inconsistent, unreasonable state and local standards, and not supportable from the standpoint of protecting safety and health. "The Commission concluded that the EPA should consult with other Federal agencies and issue RF radiation guidelines eliminating any apprehension employers, workers, and local communities might have over the lack of a Federal standard. (ARRL Letter, 12/23/86)

THE WRITTEN EXAM CREDIT RULES ARE NOT EFFECTIVE UNTIL FCC HAS RECEIVED APPROVAL OF APPROPRIATE PROPOSED CHANGES IN FCC LICENSE APPLICATION FORM 610 FROM THE OFFICE OF MANAGEMENT AND BUDGET (OMB). As this was written, OMB approval had not been secured.

ADDITIONAL INFORMATION RELATED TO LAST MONTH'S FCC NEWS REPORT ON AMATEUR BAND SIGNALS BEING UPLINKED TO A COMMERCIAL SATELLITE IS THAT "Amateurs on both coasts are actively working on linking two meters up to a commercial satellite to join packet networks on both coasts." The president of a San Diego amateur packet association "... is in the process of installing such an amateur packet uplink. Packet frequency 145.01 MHz will be uplinked via ... satellite to a packet repeater in Gaithesburg, MD. "The satellite acts just like a digipeater. You simply call up the call signs of the destination repeater. It has already been tested. Some amateurs want "... to know the legalities of the common carrier satellite to amateur packet uplink currently under construction. "All felt it was legal until they read the FCC comments on the mixing of commercial common carrier and amateur transmissions in ..." last month's news. "'Public telephone interconnection commonly involves satellite uplinking by common carriers and phone patching by amateur stations is provided for in the rules," they said." Furthermore, the FCC has temporarily waived the control operator requirement for automatic packet messages.
(W5YI Report, 12/15/86)

"IF YOU BEGIN HEARING MORE AND MORE ILLEGAL OPERATORS IN THE 420-450 MHz UHF AMATEUR BAND, IT WILL BE BECAUSE A CONCENTRATED SALES EFFORT APPEARS UNDERWAY TO GET THE EAGLE-1 UHF MINI TRANSCEIVERS INTO THE HANDS OF THE PUBLIC." Advertised by a mail order firm called Northern Hydraulics, Burnsville, MN., there is no warning that an amateur license is needed to use these radios. "In fact, the company appears to be promoting the public to use these radios for business purposes. "Several other firms also market the Eagle-1 but all other ads have warned potential purchasers that a Technician class or higher amateur license is needed to operate the radio." (Westlink Report)

A MEMBER OF SOUTHERN CALIFORNIA TWO METER REPEATER COORDINATION GROUP "MAY BE THE VICTIM OF A NEW FORM OF ELECTRONIC URBAN TERRORISM." "It is directed at him, he believes, because the repeater councils he serves on will not grant coordination to pirate repeaters." Apparently such repeaters are being operated without coordination causing "unacceptable levels of interference" to the operation of properly coordinated repeaters. The jamming and harassment tactics of pirate operator types against council members was not applicable to him because he "... does not own a repeater, so it appears that the persons responsible for this illegal conduct took another tack." He has reported that his PO Box "... was gathering more than 100 pieces of unsolicited junk mail every day... (and such mail was) ...also being sent to his place of business and to his home." Some costly C.O.D.s have arrived and "...some 45 unwanted magazines and newspapers a month." "Suspecting that those harassing him ... were obviously highly skilled at illegally gaining entry to and manipulating private data bases and that they might be billing purchases to his credit accounts...(he)...has turned all information and evidence over to the US Postal Inspectors office..." He advises that FBI is involved in the investigation. "If illegal entry into one or more private data bases is proven, under the wire line and data base protection provisions of the newly enacted Electronic Communications Privacy Act of 11986, those responsible for such phone freaking activities are subject to a $500,000 fine, up to 5 years in federal prison or both on each account. "The selective jamming of repeaters owned by (repeater) council members is subject to FCC sanctions including license revocation of the offending parties if they hold licenses or prosecution for operation of an unlicensed station if they do not. "The penalties here range from fines to a term in prison. "Arrests are expected in this case." (Westlink Report)

THE CURRENT RATE OF DEFECTIVE 610 LICENSE APPLICATIONS RECEIVED BY FCC IS ONLY ONE HALF OF ONE PERCENT! 97% of the 610s are received "on time" that is, not more than ten days from VEs to VECs and not more than ten days from VECs to FCC. As of October 31, 1986 the volunteer examiner system had held 6,784 examination sessions, and had examined 86,533 applicants for amateur licenses.

END OF MONTH LICENSE TOTALS: October - 419,311; November - 419,259
(W4GF)

PRODUCT REVIEW

MFJ - 108 DUAL TIME LCD 12/24 HOUR CLOCK

As KH6BZF said: "A man with one watch always knows what time it is... a man with two watches is never sure!!" Now you could be both if you have this clock.

MFJ 108 is a dual clock - actually two independent clocks that are slipped into a metal holder. One is showing local time using 12 hour clock, the other one is showing GMT (UTC, Zulu or whatever you use) in a 24 hour format. This is indeed a rare combination of clocks. Usually, when you have a watch that is trying to show two time zones at the same time, the price to pay is that you can only have one, 12 hour or 24 hour format display (such as Casio PQ-40U). Because both clocks are completely independent, with their own batteries, they can be set to any time zone (even Newfoundland) and be "unsynchronized" if needed. They can also be used separately.

The display is using large LCD numbers and besides hour and minute display, you can display also seconds, month and day. It can be operated in alternating time-date display mode (flashing). They are quartz controlled and can be synchronized with WWV.

With our clock we found that the LOCAL clock ran a bit slower, we couldn't find the "trimmer" accessible from the outside that would allow "dead on" synchronization. (No mention in the instructions.) There are three buttons, while instructions refer to two: DISPLAY and SET. It appears that the top and bottom button are the same - DISPLAY, while the middle one is SET. By pressing DISPLAY once you will get date displayed (for two seconds, or as long as you hold it), by pressing it twice you will get seconds displayed (until you press it again, then returns to normal - hours/minutes display). By pressing the SET button once, you will get alternating display (about 3 second intervals) flashing hour/minute and month/day. By pressing the SET button two and more times, you will set each individual display as needed.

Overall the clock is a welcome addition to the shack, the letters are large easily visible in the dim lit operating position. It can be placed close to the dials or for really ergonomic contester, you can remove GMT clock from the holder and stick it right on the front panel of one of your boxes. It is battery operated so you don't have to worry about "Hertzes" when you go on the expedition.

The retail price is $19.95 for dual clock and $9.95 for single one (MFJ-107 24 Hour Clock). Available from your local dealer or directly from MFJ Enterprises, Inc., Box 494, Mississippi State, MS 39762

KB1T RADIO SPECIALTIES 1987 HAM RADIO CALENDAR

John David, KB1T is producing this handy wall ham radio calendar for DXers and contesters.

Besides being just calendar there is wealth of information for the ham in it: B/W pictures of more or less famous hams and their setups, details on operating events (contests, major conventions, holidays, W1AW runs, historical radio anniversaries), moon phases. Other features include: Contest sponsors and information sources (addresses), sample of contest log page, map and prefix list of ITU and CQ zones, "ARRL Grid Locator (map) for North America (really just USA) and US FCC call Areas map.

Quality wise it is an improvement over the last year's calendar, print quality is better, more information. Gremlins sneaked into this calendar right on the first month's photo - WB8BTH's photo is "inverted" left to right, that means he is writing with his left hand and operating weird radios like "inverted" Kenwood TS-930S. Not to worry, January is behind us and all other photos are OK.

Ever wondered why they call weekend a "weekend?" Must have been because it is at the end of the week. Well all the calendars in North America "split" the weekend. That is Saturday is the "weekend" day, while Sunday is the "weekbeginning" day. Who is responsible for this mess? The same guys who introduced inches and pounds? If I remember correctly, back in the old country the weekend was at the end of the week and week started with monday. Would we hams vote to put the whole weekend at the end of the calendar where it belongs? Those contest notes would sure look nicer. If you think so, maybe you can tell that KB1T, so we can have our next year's radio calendar with weekends where they belong. We use GMT (UTC, Zulu) clocks, we could use real contester's calendar too. I'm for it.

The price of calendar for US hams is $9.95 and is available from KB1T Radio Specialties, Box 1015, Amherst, NH 03031

ON4UN LOW BAND DXing SOFTWARE

This is a collection of professionally written software which is dedicated to the serious DXer and more so to the LOW-BAND DXer. The software is s complement of ON4UN's new book LOW BAND DXing, to be published soon (Summer 1987) by the ARRL. By itself it is a collection of unique design programs for LOW BAND antennas and arrays (vertical array pattern calculations, matching networks, transmission lines, phasing,etc.), as well as operating tools of very high precision. Grayline calculations (sunrise, sunset), distance and bearings to DX locations (500 locations in data base, prefix, city, country, or use coordinates). 30 menu driven programs are packed on a diskette accompanied by the users manual.

The software is available in different formats and operating systems (please specify): DOS 3.3 for Apple IIe and IIc, CP/M for Kaypro, Epson QX10 and similar computers, MS-DOS for IBM and IBM compatibles and CPM for the Commodore C-128. An Apple Macintosh version is scheduled for Spring 1987.

Price: US $19.95 ppd.

Personal checks, money orders in US dollars are acceptable. Order from:

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215 Poelstraat, B9220 Merelbeke, Belgium

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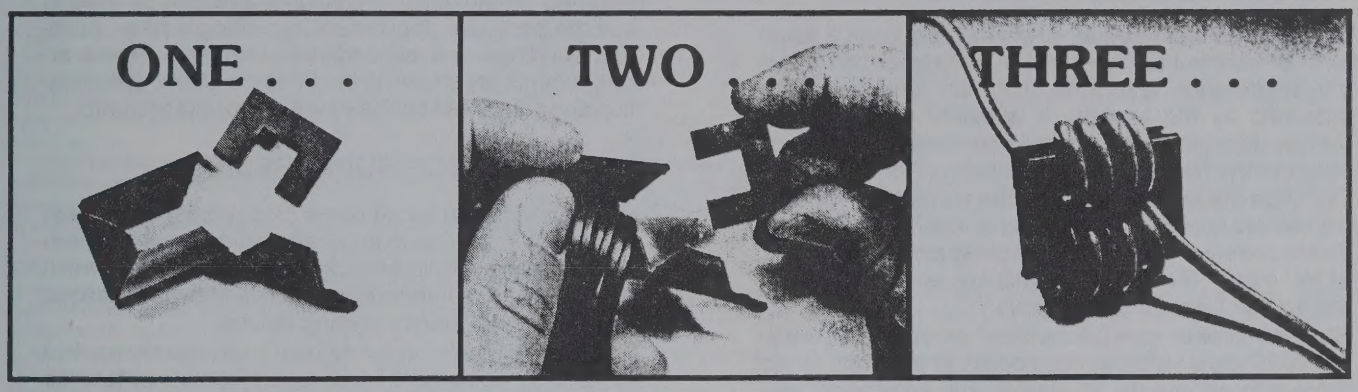

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Comparison to other products is not possible. Nearest equivalent product is the simple toroidal core which is difficult to fix and has unspecified performance.

THE SNAP-ON CHOKE

Modern electronic equipment, both entertainment type and industrial type are frequently plagued with radio frequency interference from external sources. This interference can severely affect the performance of the equipment.

• RFI INTERFERENCE FILTER

The snap on radio frequency choke introduces a novel form of construction to simplify the application of an anti-interference technique that has long been appreciated by the experts. It is useful with domestic radios, televisions, audio equipment, computers, process control and telecommunication systems.

Common-mode chokes reduce the currents associated with cables acting as transmitting or receiving antennas, that is currents that may be travelling along the outside of the cable. These may be reduced without affecting the normal function of the circuit.

Snap-on chokes can be installed on cables of up to 10mm diameter without any access to the ends of the cable and without risk of voiding any equipment warranty. For rigid cables several pairs of cores can be applied and for flexible cables multiple turns may be fashioned to provide a substantial impedance to interfering currents.

The Snap-on Choke is an irresponsive device which has proven to be effective in attenuating unbalanced currents in multiconductor cables connected to electronic equipment.

A number of chokes can be applied together if necessary, thus providing flexibility in the solution of the interference problem. These chokes may be used with a variety of cable sizes and are easily installed by the non-technical user.

A variety of choke/cable configurations can be used to suit the particular application (eg: multiple pairs, multiturn windings, low capacitance windings). These arrangements are shown in the Snap-on Choke specification and data sheet enclosed with the packaged units.

INTERFERENCE SUPPRESSION

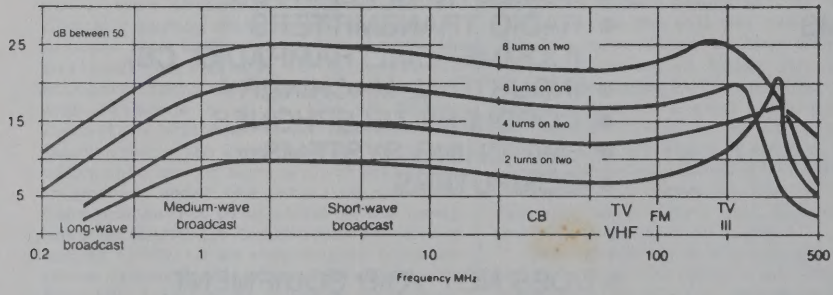
Ferrite beads and toroid cores (doughnuts) have been used for many years to suppress radio frequency interference to electronic and digital equipment. The most common type of interference is caused by unbalanced currents in the interconnecting cables.

Ferrite "doughnuts" or ferrite beads are usually applied to installed equipment which is subject to interference from an outside source or alternatively, to cure interference generated by the equipment itself.

The disadvantage of the ferrite "doughnut" is the limitation imposed by the size or stiffness of the cable to which the "doughnut" is to be attached.

PERFORMANCE

• ATTENUATION/FREQUENCY CHARACTERISTIC



From 2 to 100MHz the losses in the ferrite material result in a constant impedance region. The phase angle will vary due to resonance within the material, but this is unimportant in this application.

Below 100MHz the impedance is closely proportional to N^2C where N is the number of turns and C the number of cores. Thus, 4 turns on 1 core has the same impedance as 1 turn on 16 cores: clearly it is most effective to have the largest possible number of turns.

LOW-FREQUENCY PARAMETERS

Permitted unbalanced current flow: 8 ampere-turns (balanced current within the cable will not contribute to this limit, which is set by saturation of the core.)

MECHANICAL

• **WINDING DETAILS:**

Max. cable diameter (mm)	9.9	7.2	5.4	5.2	4.3	3.6	3.0
Max. number of turns	1	2	3	6	8	10	12	14

WINDING AREA: 9.9 mm x 21.6 mm minimum

Above 100MHz the impedance is strongly affected by the shunt capacitance, which is itself a function of the arrangement of the winding. To get maximum high-frequency performance with windings of more than 6 turns these should be divided between the two legs of the core, with the ends diagonally opposite. If more than one core is to be used then the high-frequency performance can be improved by winding each core individually to produce a series of separate inductors.

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CUSTOM BEAM HEADINGS to over 400 Countries and cities. Also included: Sunrise - Sunset Chart (Specify 15 - 45 minutes) for any date you choose. Send $4.75 to Dave Whaley, WB9SES, 9 Quail Run, Lake in the hills, IL 60102

AEA PK-64 PAKRATT with HFM-64 HF modem option and upgraded firmware. $250. Call Dave Whaley, WB9SES at (312) 658-3767

CW FILTERS FOR KENWOOD TS-830, TS-930S and Collins receivers with 455 kHz IF. Collins PN X455KF300 with 300 Hz bandwidth. These filters have been used for years by famous contesters and DXers. Several hundred have been sold and there are less than fifty remaining as of Jan. 87. The filters have been written about in HR mag, RADIOSPORTING and the ARRL Handbook. New, in Collins boxes, tested prior to shipping. SASE for spec sheet and other info. $65.00 postpaid US/Canada, $70.00 elsewhere.
K1EB, Gary Firtick, 589 Hamilton Ave., Watertown, CT 06795

WAVETEK 110 FUNCTION GENERATOR, new $75.00. Tektronix Scope probes new in unopened bags P6101 $30.00, P6106 $70.00. Hallicrafters SX-23 Skyrider receiver, good condition, works $50.00. N4MM, John Kanode, RFD 1, Box 73A, Boyce, VA Tel. (703) 837-1340 after 5pm

1987 HAM/SWAPFEST Ft. Walton Beach, Florida on March 21-22, 1987 opens 8 AM. FCC exams, ARRL, MARS, QCWA meetings. Banquet, RV parking. Talk in 146.19/79 MHz. PARC, PO Box 873, Ft.Walton Beach, FL 32548

Design antenna traps quickly and accurately with your Apple II. Send $10 for program disk and manual, SASE for more information. W1HUE, 119-7 Buckland St., Plantsville, CT 06479

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80 METER DXING, ON4UN..... 12
160 M BULLETIN, N7CKD..... 14
A BREATH OF FRESH AIR, N7IL..... 16
HOPEN ISLAND, LA4YW..... 17
TOP BAND DXING FROM FAR EAST - VS6, WØZV..... 19
MY FIRST DAYS ON TOP BAND, ON4UN..... 21
DUPING REVISITED, N4ZR..... 23
SUPER DUPER, DL6RAI,..... 25
TS-940S QUIET QSK MOD, SMØCOP..... 26
COMPUTERS CAN BE HAZARDOUS, ABØX..... 27
MOST CREATIVE NAME AWARD, ABØX..... 27
SOVIET SATELLITES, N9CUE..... 28
HUNTING DURING THE CONTEST, WB9TBU..... 29
MOBILE OPERATION, K4ZN..... 31
PROPAGATION REPORT, KH6BZF..... 32
CONTEST RULES, W1WY..... 33
FCC NEWS, W4GF..... 35
PRODUCT REVIEW, MFJ CLOCK, K8IT CALENDAR..... 36
SNAP-ON-CHOKES..... 37
CLASSIFIED ADS..... 35
DXCA RULES..... 36

DXCA

DX CENTURY AWARD

GENERAL RULES

The DXCA program is sponsored by the International Radiosport Association and RADIOSPORTING magazine for all licensed radio amateurs and short wave listeners all over the world.

All contacts must be made from the same country. Maritime, aeronautical and land mobile stations may operate from anywhere in the world.

Only contacts made after January 1, 1986 are valid for the basic award.

Awards for club stations will be issued to the club and not to an individual operator.

All amateur bands for which an applicant holds a valid license may be used, including new WARC bands.

QSL cards for the awards must be in the possession of the applicant. The application for the award must be certified by two licensed amateurs with a statement that the list of contacts and QSL cards agree. Any altering or forging will result in disqualification. The IRSA Awards Committee has the right to request the QSL cards for verification.

The ARRL DXCC countries list criteria will be used in determining what constitutes a "country." A particular operation or DXpedition does not have to be recognized by the ARRL in order to count for DXCA (i.e. Burma). As long as there is a reasonable proof that the operation took place as claimed, it will be recognized. If it is found in the future that certain operations were not legitimate, the credit for that operation will be removed from all applications claiming the operation in question.

All officially allowed modes of communication may be used: CW, SSB, AM, FM, RTTY, Packet, SSTV and Mixed mode. Also separate categories will be recognized for satellite contacts, QRP, QRPP and Mobile stations. All contacts must be two way, using the same mode, except for the mixed mode. A valid contact must consist of a call sign and signal report exchange.

All claimed contacts must be made by the operators themselves, without the help of a third party, i.e. list or net operation. Non interference with commercial services on shared bands, fair play and good sportsmanship are required of all DXCA holders and applicants. In the event of specific objections relative to continued poor operating ethics, an individual may be disqualified from the DXCA by action of the DXCA Awards Committee.

The application must contain a station's callsign, name and address, type of award applied for and list of contacts. The list of contacts and any QSL cards in possession must include: callsign, signal report received, band, date, time GMT and two way mode.

Callsigns of all certificate holders will be published in RADIOSPORTING magazine and a DXCA Honor Roll will be published twice a year.

The first twenty winners of monoband and multi band awards will receive a free one year subscription to RADIOSPORTING Magazine.

The decisions of the IRSA Awards Committee are final.

SINGLE BAND DXCA

Single band DX Century Award is issued for working or hearing a minimum of 100 countries on one band. Endorsement stickers are issued in increments of 20 countries up to 240, increments of 10 up to 300 and increments of 5 above 300 countries.

Contacts made on all amateur bands (1.8, 3.5, 7, 10, 14, 18, 21, 24, 28 MHz and all VHF/UHF bands), as permitted by the license in the country of the applicant, are eligible for award. All contacts must be made on one band. No crossband contacts are allowed.

The basic award will be issued for a minimum of 100 countries confirmed on one band. A numbered endorsement stickers will be issued for each mode (CW, SSB, AM, FM, RTTY, Packet, SSTV and Mixed) and category (satellite contacts, QRP, QRPP and Mobile stations).

The holders of Single Band DXCA are allowed to use the abbreviation signifying the type of award and country total on their QSL cards.

Example: "1.8 DXCA" or "1.8CW DXCA 124/265" which means: Monoband 1.8 MHz, all CW mode, DXCA, 124 countries confirmed since Jan. 1, 1986/ number of countries worked.

MULTI BAND DXCA

6B DXCA, 7B DXCA, etc. awards will be issued for confirmations from a minimum of 100 countries on each of at least 6 bands. A separate awards will be issued for working 100 countries on 7, 8, or more bands.

Also a cumulative total will be kept for an overall countries count similar to the monoband awards. i.e. 7B DXCA (856/1265), which signifies that station has confirmed a minimum of 100 countries on each of 7 bands and the total count is 856 countries since Jan. 1, 1986 and 1265 countries on 7 bands worked. A numbered stickers will be issued for each mode and category.

Stations having monoband DXCA need not submit the list of contacts already credited for monoband awards. It is sufficient to mention the certificate type and number, and only an additional list of contacts has to be submitted.

Stickers for increments of 100 countries will be issued from 600 to 2000, increments of 50, from 2000 and up.

The Honor Roll - listing of top contenders and latest changes in standings will be published in RADIOSPORTING magazine twice a year.

The fee for each award is US $5 or 10 IRCs, and each endorsement sticker is $2 or 4 IRCs. Engraved Honor Roll plaques will cost $25.

A set of application forms and countries list for DXCA awards are available from IRSA for SAE and 3 IRCs.

All applications to be sent to IRSA - DXCA, Box 282, Pine Brook, NJ, 07058, USA

RADIOSPORTING

INTERNATIONAL MONTHLY MAGAZINE - BY AND FOR ACTIVE RADIOAMATEURS

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	Dave Heil, K8MN/OH2

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